

SONY

KV-2092F

MODEL

SERVICE MANUAL

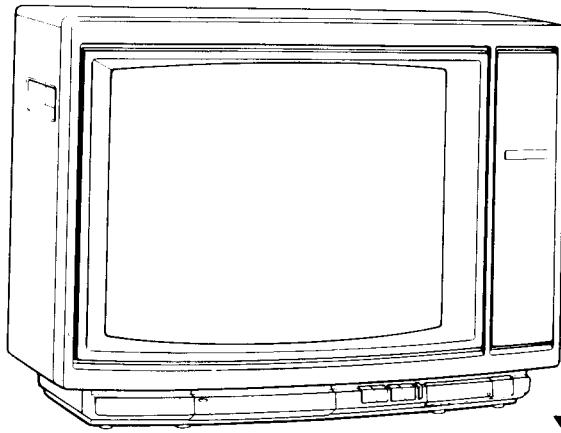
KV-2092AEB

RM-652

SERVICE MANUAL

PX Model

Chassis No. SCC-A13A-A



September, 1986

XE-4 CHASSIS

SPECIFICATIONS

Note. The service manual for RM-652 has been issued separately.

Television system	CCIR system B, G and H	CCIR system I	EIJ system M
Color system	European PAL	UK PAL	NTSC
Channel coverage	VHF: E2 – E12 Cable TV: S1 – S3 M1 – M10 U11 – U20 UHF: E21 – E68	UHF: B21 – B68	VHF: A2 – A13, J1 – J12 Cable TV: A-8 to W UHF: A14 – A78, J13 – J62

Accessories supplied

RM-652 Remote Commander with 2 batteries (IEC designation R6, AA)
VHF telescopic dipole antenna (1)
Antenna connector (300 – 75 ohm matching transformer is built in.) (1)
UHF/VHF mixer (1)
AC power cord plug adaptor (1)

Design and specifications are subject to change without notice.

Programming system

30 programs
Automatic programming digital tuning

Picture tube

Trinitron tube
Approx. 52 cm (20 inches)
100-degree deflection (Approx. 49 cm
screen measured diagonally)

Antenna

75-ohm standard antenna socket
(DIN 45325/IEC 169-2)

Speaker

Two-way: Approx. 4 x 6.2 cm tweeter
Approx. 8 x 12 cm woofer

Audio output

2 W (with 10% harmonic distortion)

Power requirements

110 – 240 AC, 50/60 Hz

Power consumption

107W

Dimensions

Approx. 602 x 447 x 476 mm (w/h/d)
(23 3/4 x 17 1/8 x 18 1/4 inches)

Weight

Approx. 21.5 kg (47 lb 6 oz)



TRINITRON® COLOR TV
SONY®

CTV

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WARNING !!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.
THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

WARNUNG!!

DAS GERÄT NUR ÜBER EINEN TRENNTRANSFORMATOR BETREIBEN, UM ELEKTRISCHE SCHLÄGE ZU VERMEIDEN, DA DAS CHASSIS UNTER SPANNUNG STEHT!
DAS CHASSIS DIESES GERÄTS IST DIREKT AN DIE WECHSELSTROMLEITUNG ANGESCHLOSSEN.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

SICHERHEITSHINWEIS FÜR KOMPONENTEN!!

DIE IN DEN SCHALTBILDERN SCHRAFFIERT EINGEZEICHNETEN UND DURCH DAS ZEICHEN  GEKENNZEICHNETEN KOMPONENTEN SIND FÜR DIE BETRIEBSSECHEIT KRITISCHE. DIESSE KOMPONENTEN SIND DURCH SOLCHE SONY TEILE ZU ERSETZEN, DEREN TEILENUMMERN IM HANDBUCH ANGEGEBEN SIND.

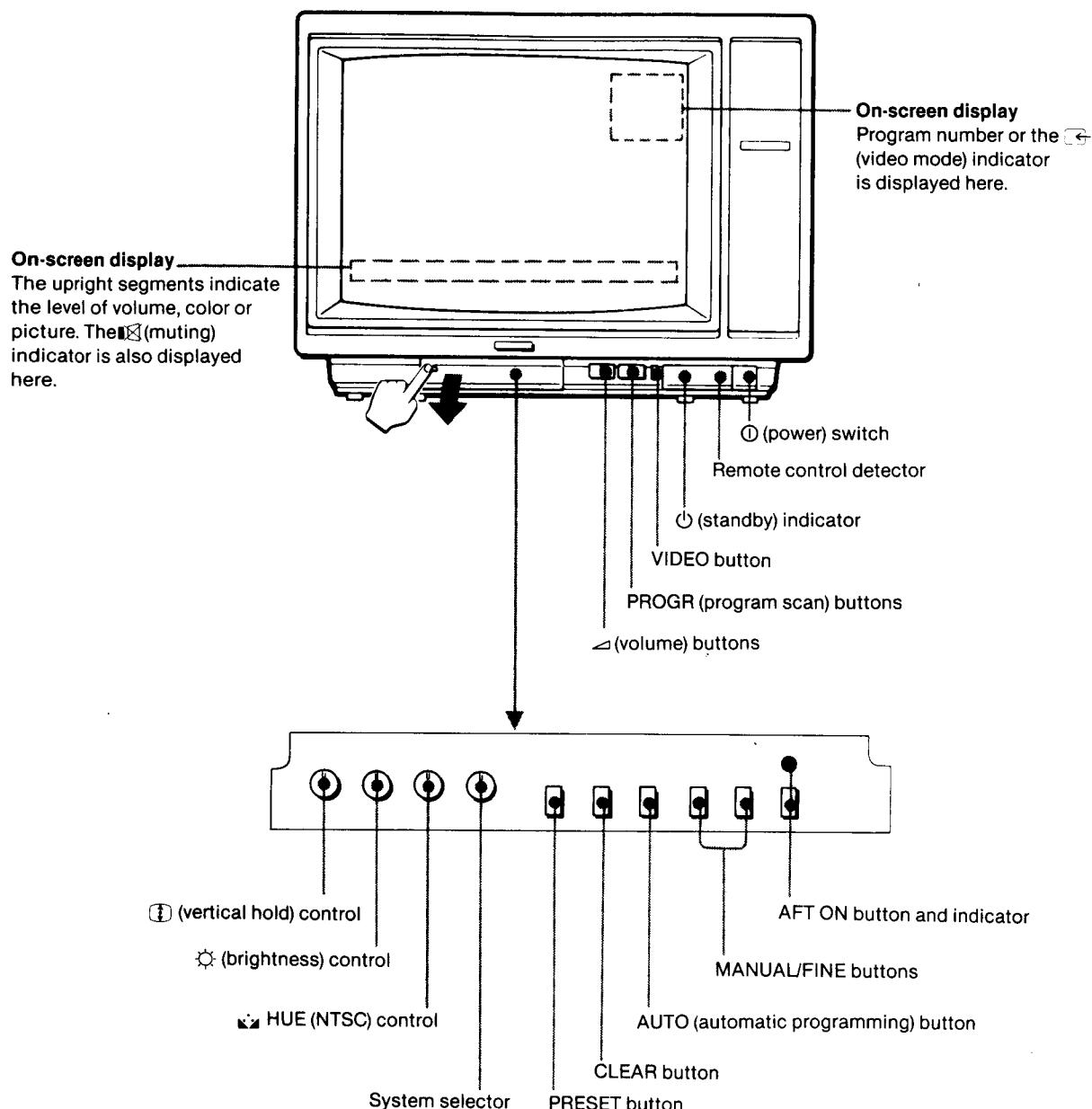
AUF FÜR DIE BETRIEBSSECHEIT KRITISCHE SCHALTUNGSEINSTELLUNGEN WIRD IN DEM VON SONY HERAUSGEgebenEN HANDBUCH HINGEWIESEN. BEFOLGEN SIE DIESE ANWEISUNGEN STETS, WENN KRITISCHE KOMPONENTEN AUSGEWECHSELT WERDEN ODER VERDacht AUF FUNKTIONSTÖRUNGEN Besteht.

SECTION 1

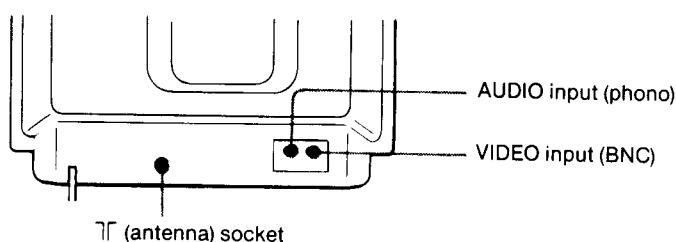
GENERAL

1-1. FUNCTION OF CONTROLS

Front



Rear



1-2. PROGRAMMING

Automatic and manual programming are available.

Automatic programming presets receivable channels automatically from the lowest frequency to the highest. With manual programming you can preset a particular channel in any desired program position.

Preparations

- Turn on the TV.
- Press VIDEO if the \square -indicator is displayed on the screen.
- Set the system selector to the appropriate position.

UK PAL: To view UK PAL programs

EUR. PAL/NTSC: To view European PAL or NTSC programs. Either of the two systems will be selected automatically.

NTSC: In case of extreme interference or of an extremely weak signal in NTSC system, set to this position.

AUTOMATIC PROGRAMMING

1 Press PRESET.

The program number on the screen blinks.

2 Press PROGR + or - to select the program position from which programming should start. For example, when you select the programming position 5, the automatic programming starts from position 5 and ends at position 5.

Press + for higher-numbered positions and - for lower-numbered positions.

3 Press AUTO.

All receivable channels will now be preset in numerical sequence. When no more channels can be found, the programming mode is released and stops at the position where the programming started. The program number on the screen lights steadily (does not blink).

MANUAL PROGRAMMING

1 Press PRESET.

The program number on the screen blinks.

2 Press PROGR + or - to select the desired program position.

3 Press CLEAR and then press MANUAL/FINE + or -.

The picture of a channel found first will appear.

Repeat pressing MANUAL/FINE + or - until the desired channel appears.

(Pressing CLEAR first makes tune in the channels from the lowest-frequency channel.)

Repeat steps 2 and 3 for all desired channels.

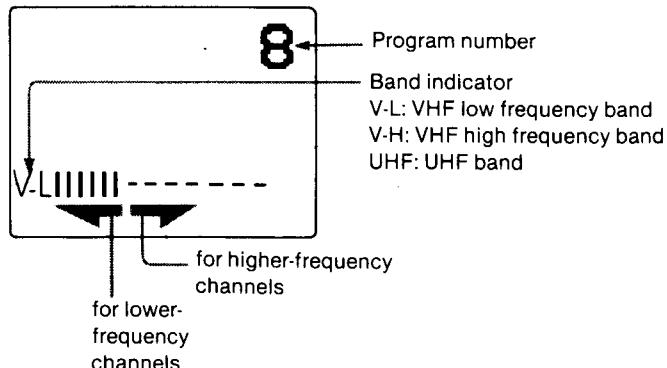
4 Press PRESET again.

Program position "0"

Program position "0" is reserved for video tape playback.

ON-SCREEN DISPLAY WHILE TUNING

The band in which the channel is being tuned in and upright segments will appear. The number of upright segments indicates the approximate location of the channel being tuned in within the band.



FINE-TUNING OF A WEAK STATION

If the picture of a particular channel is not acceptable, keep MANUAL/FINE + or - pressed with the PRESET button set to OFF until the picture becomes clearer. When either MANUAL/FINE is pressed, the automatic fine tuning on the selected channel is deactivated and the AFT indicator turns off. To view this particular channel, keep the automatic fine tuning deactivated. (When you want to restore the automatic fine tuning on the channel which has been fine tuned with MANUAL/FINE, press AFT ON).

SKIPPING UNUSED PROGRAM POSITIONS

Press CLEAR when an unused program position number blinks while programming. Then when you press PROGR + or -, the unused position will be skipped.

1-3. OPERATION**VIEWING TV PROGRAMS**

Usually the Remote Commander is all that is needed to operate the unit in everyday use.

- 1** Press ① to turn on the TV.
- 2** Pointing the head of the Commander towards the remote control detector on the unit, select the TV program position in either of two ways:
 - Press PROGR + or -.
 - Press the program number buttons.
 For 0 through 9, press the corresponding units-digit number.
 For 10 through 19, press "1 -" for the tens-digit and then the number for the units-digit.
 For 20 through 29, press "2 -", and then the number for units-digit.
- Note:** If you do not press a units-digit button within several seconds while selecting more than ten, the previous program position will be recalled.
- 3** Adjust the volume by pressing ↗+ or - : + for louder and - for lower. The upright segments will appear on the screen to indicate the level of volume.
- 4** To put the TV in the standby mode, press ⑤. The standby indicator on the unit will light up. When the TV is in the standby mode, you can view the TV by pressing any of the program number buttons.

To mute the sound immediately, press ⑥. The  indicator will appear on the screen. Press it again to restore the sound.

To turn off the TV mains power, press ① on the TV. The TV cannot be operated with the Commander when the mains power is off.

Note

If the picture or sound of an NTSC program appears abnormal when the system selector is set to EUR.PAL/NTSC, set the selector to NTSC.

PICTURE ADJUSTMENTS

Press ④: + for more color intensity or - for less color intensity.

Press ⑤: + to increase picture contrast with vivid color or - to decrease contrast with soft color.

When ④ or ⑤ is pressed, the upright segments will appear on the screen to indicate the level of color (④) or picture contrast (⑤).

To restore the factory preset picture contrast and color, press →←.

Turn  on the TV: clockwise for more brightness or counterclockwise for less brightness.

Turn  on the TV: clockwise to make the tones greenish or counterclockwise to make them purplish. (This control is only effective in the NTSC system.)

Turn  on the TV, when the picture rolls vertically.

VTR CONNECTION

Connect a VTR to the  socket and connect the external antenna to the VTR.

When operating the VTR

Be sure to set the system selector on the TV to the position corresponding to the system used for the VTR program.

If your VTR has audio/video outputs

In addition to the connection to the  socket, connect the audio/video outputs on the VTR to the AUDIO/VIDEO inputs on the TV. Use a connecting cord which matches the VTR's outputs. This connection provides better-quality playback picture and sound. To view the VTR programs when this connection is made, press VIDEO so that the  indicator appears on the screen.

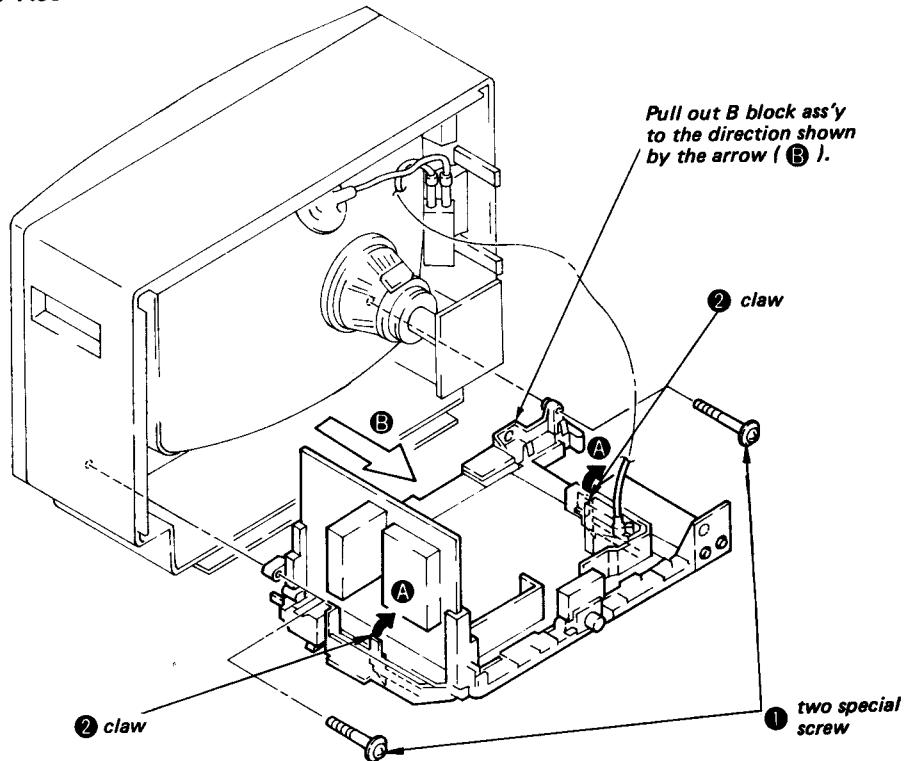
For details on the connections and VTR operations, see the instruction manual of the VTR.

Keep the VTR away from the TV, if the display or sound is affected.

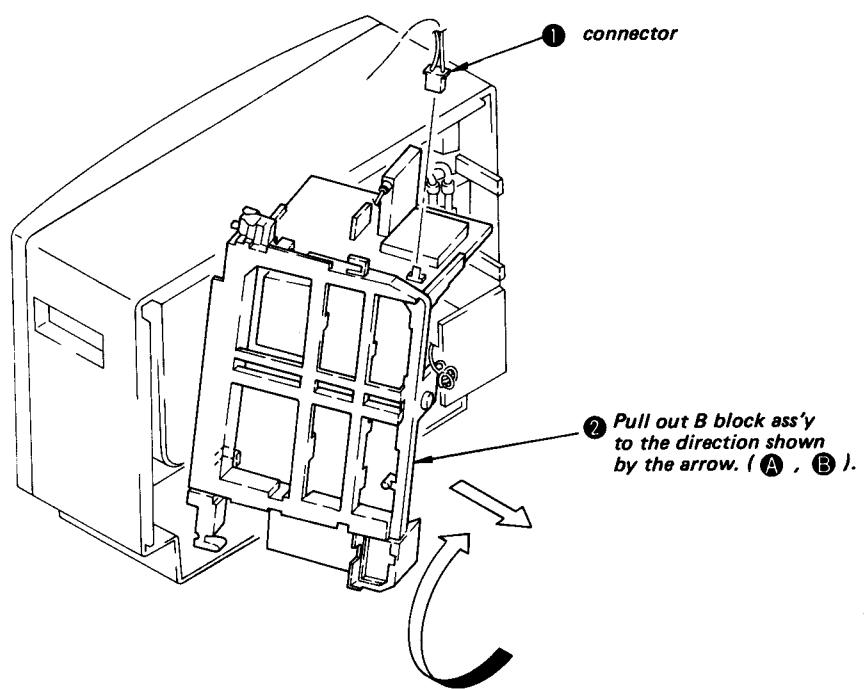
SECTION 2 DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

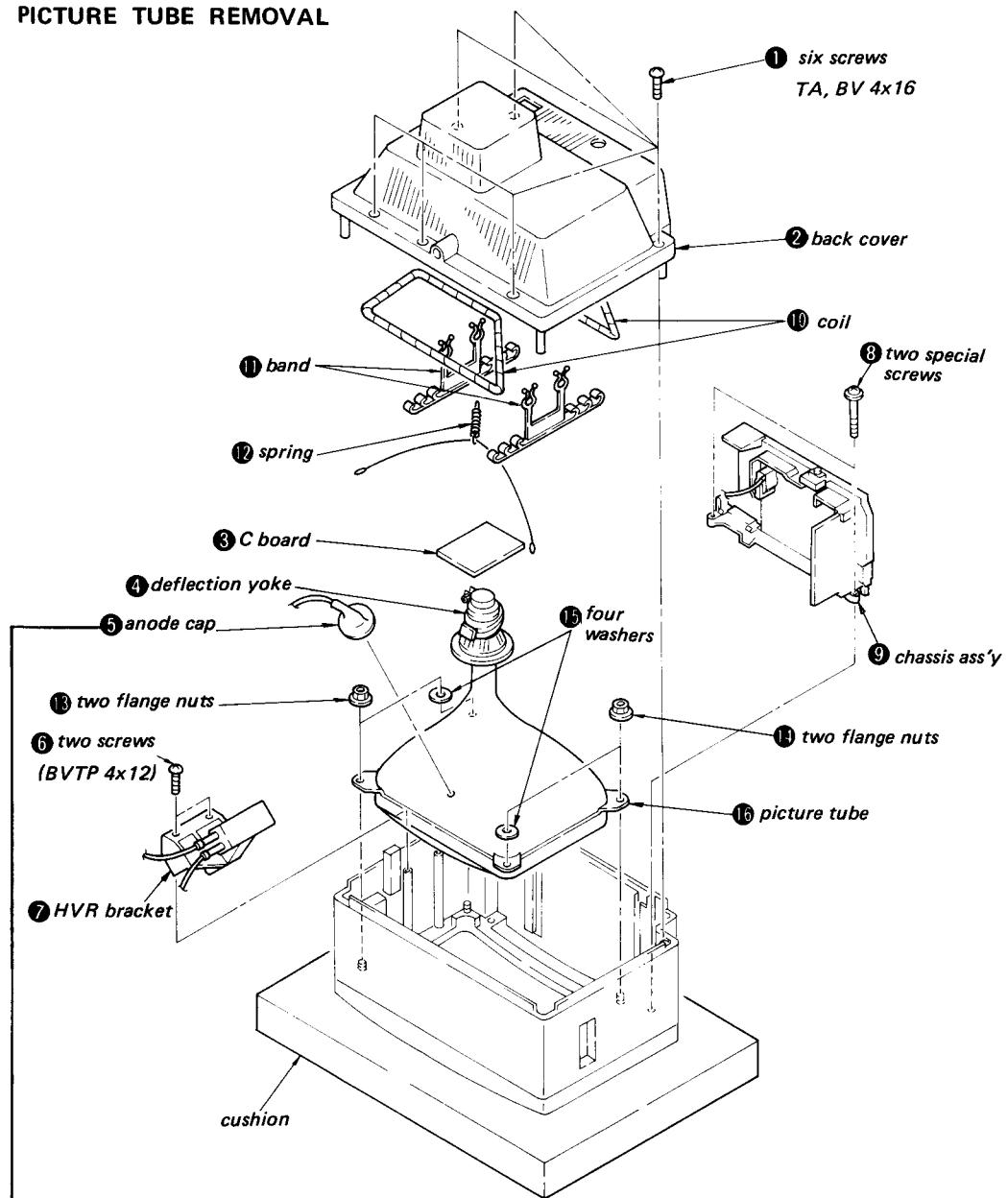
2-1. B BLOCK ASS'Y REMOVAL



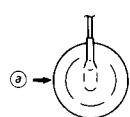
2-2. SERVICE POSITION FOR B BOARD



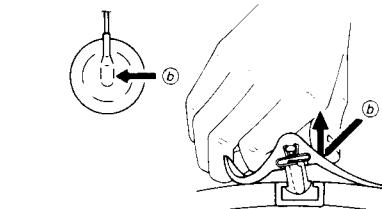
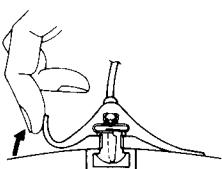
2-3. PICTURE TUBE REMOVAL



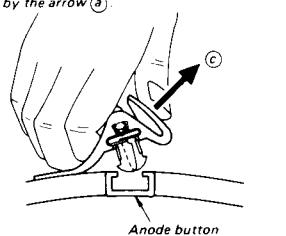
• Removing Procedures



① Turn up one side of the rubber cap in the direction indicated by the arrow ①.



② Using a thumb, pull up the rubber cap firmly in the direction indicated by the arrow ②.



③ When one side of the rubber cap is separated from the anode button, the anode cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ③.

SECTION 3 SETUP ADJUSTMENTS

3-1. SETUP ADJUSTMENTS

- The following adjustment should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted.

Controls and switch should be set as follows unless otherwise noted:

- PICTURE control normal
- BRIGHTNESS control ... mechanical center

Perform the adjustments in order as follows:

- Beam Landing
- Convergence
- White Balance
- Sub Bright
- Focus

Note: Test Equipment Required.

- Color-bar/Pattern Generator
- Degausser

3-1-1. BEAM LANDING

Preparation:

- Feed in the white pattern.
- Before starting, degauss the entire screen.

- Loosen deflection yoke screw.
- Adjust purity control as shown in Fig. 3-1.
- Slide deflection yoke as far forward as it will go.
- Turn the raster signal of the pattern generator to red.
- Adjust purity control to center vertical red band as shown in Fig. 3-2.
- Slide deflection yoke back for a uniform red screen.
- Check green and blue rasters for uniformity by performing the same way as steps 4, 5 and 6.
- Tighten the deflection yoke screw.
- Check if mislanding appears at corners a - d as shown in Fig. 3-3. If mislanding is observed, correct it as shown in Fig. 3-3.
- Confirm that beam landing is correct when the receiver is faced in all directions.

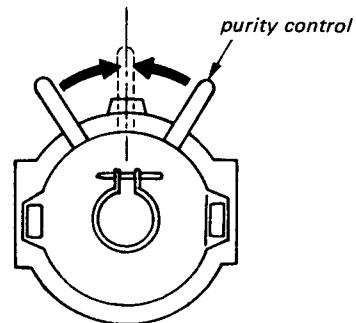


Fig. 3-1.

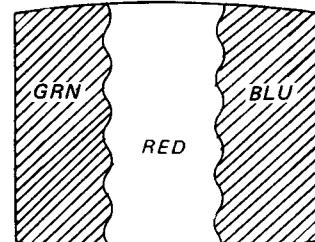
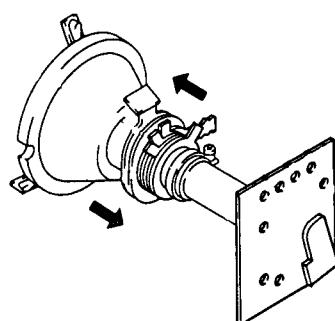
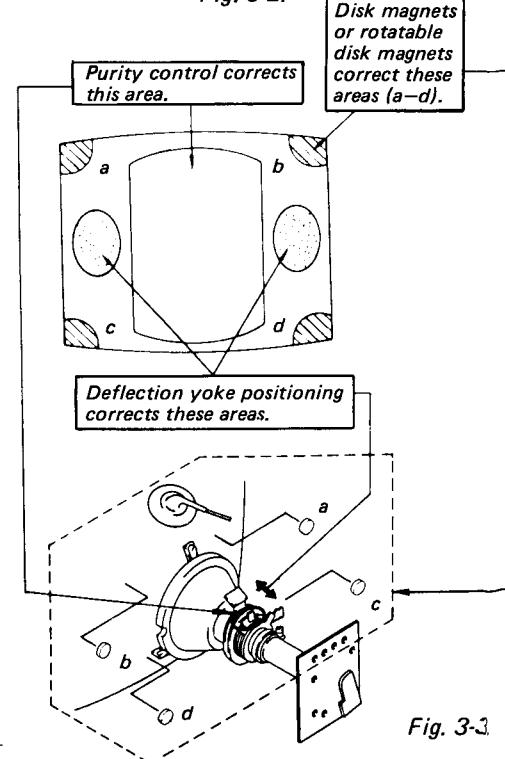


Fig. 3-2.

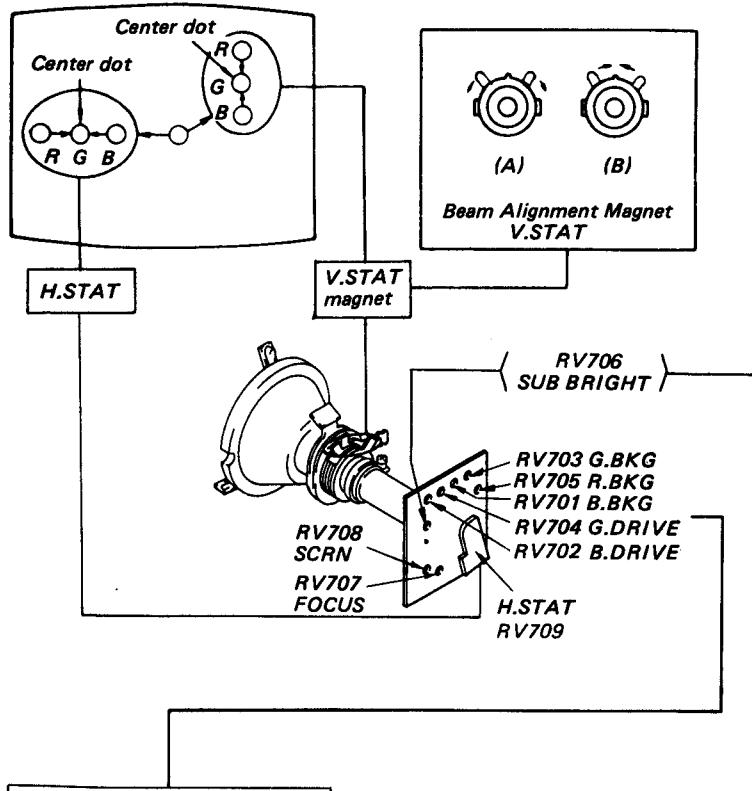


3-1-2. CONVERGENCE

Preparation:

- Before starting, perform FOCUS, H.SIZE and V.SIZE adjustments.
- Set BRIGHT control to minimum.
- Feed in the dot pattern.

(1) Horizontal and Vertical Static Convergence

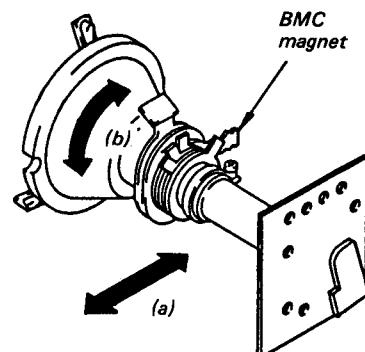


If blue dot does not coincide with red and green dots, perform following steps.

Move BMC magnet (a) to correct insufficient H. static convergence.

Rotate BMC magnet (b) to correct insufficient V.static convergence.

In either case, repeat Beam Landing Adjustment.



3-1-4. SUB BRIGHT

1. Feed in a cross-hatch pattern.
2. Turn PICTURE and BRIGHTNESS controls fully counterclockwise.
3. Turn RV706 (SUB BRIGHT) slowly to obtain a faintly visible cross-hatch.

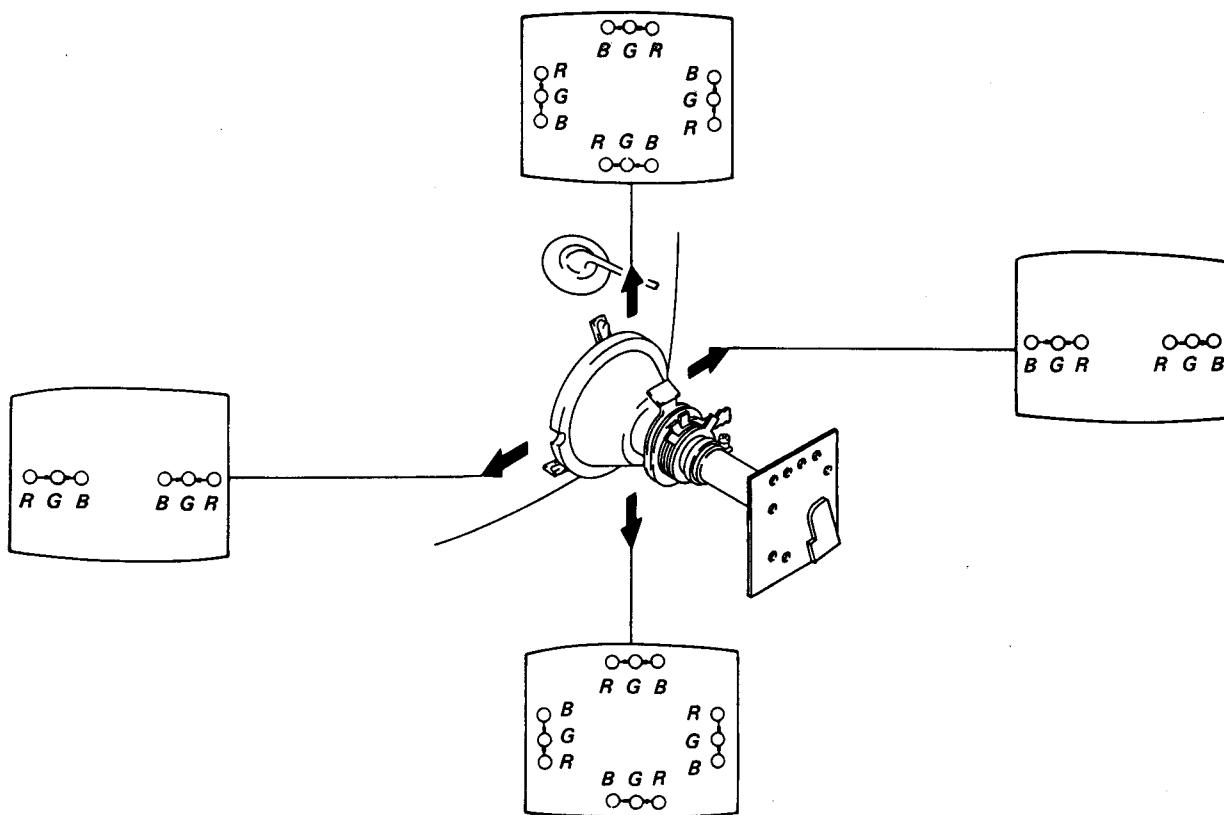
3-1-3. WHITE BALANCE

1. Feed in a cross-hatch pattern.
2. Turn PICTURE and BRIGHTNESS controls fully counterclockwise.
3. Turn RV702(G.DRIVE) and RV704(B.DRIVE) fully clockwise.
4. Set RV701(B. BKG), RV703 (G.BKG), RV705 (R. BKG) and RV709 (SUB BRIGHT) to mechanical center.
5. Turn COLOR controls fully counterclockwise.
6. Turn RV708 (SCRN) slowly to obtain a faintly visible cross-hatch. Note the color that first becomes visible by turning RV708. Do not turn a BKG control for this color.
7. Adjust the other two BKG controls for best white balance (neutralgray) of the faint cross-hatch. Turn the raster signal of the pattern generator to white pattern.
8. Turn PICTURE and BRIGHTNESS controls fully clockwise. Observe the screen and adjust the DRIVE controls for best white balance.
9. Repeat Steps 7 through 8 several times.

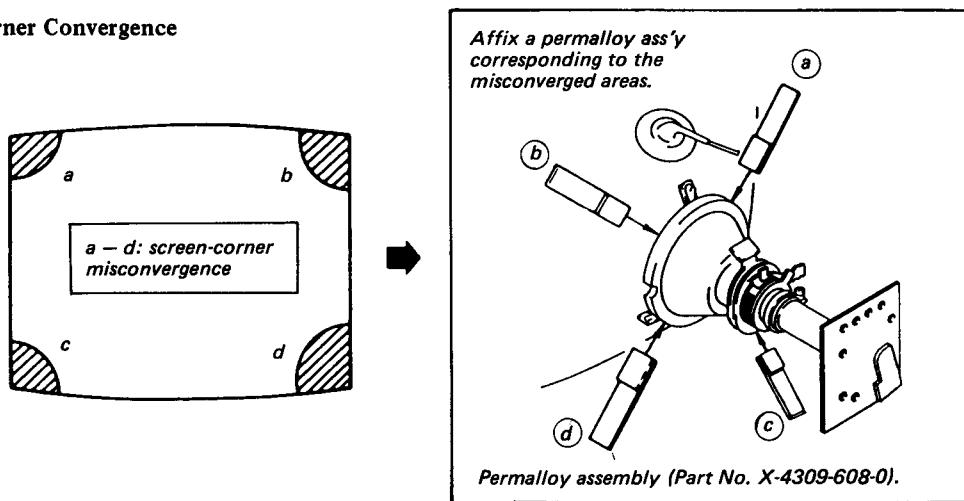
(2) Dynamic Convergence Adjustment

Preparation:

- Before starting, perform Horizontal and Vertical Static Convergence Adjustment.
- 1. Loosen deflection yoke screw.
- 2. Remove deflection yoke spacers.
- 3. Move the deflection yoke for best convergence as shown below.
- 4. Tighten the deflection yoke screw.
- 5. Install the deflection yoke spacers.



(3) Screen-corner Convergence



3-15. FOCUS

Adjust RV707 (FOCUS) control for a best picture.

SECTION 4

SAFETY RELATED ADJUSTMENTS

R829 CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

The following adjustments should always be performed when replacing the following components (marked with on the schematic diagram).

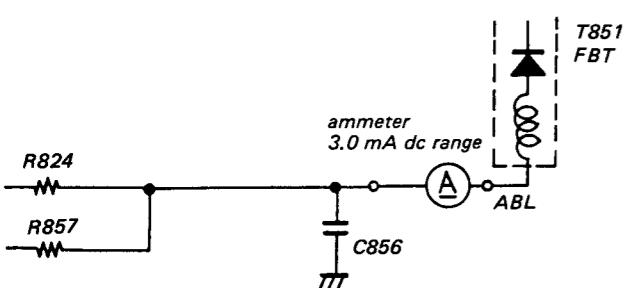
<input checked="" type="checkbox"/>	R829
<input checked="" type="checkbox"/>	IC501, Q806, Q807, Q808, Q809, D803, D804, C532, C831, C832, C833, C834, C835, C836, C856, C857, R534, R820, R821, R822, R823, R824, R825, R826, R827, R828, R829, R857, R858, R859.

(1) Preparation before confirmation

1. Turn the POWER switch ON, and receive dot(NTSC) signals and set the PICTURE and BRIGHTNESS controls to maximum.
2. Confirm that the voltage of the protector terminal of H.V.R is 15.0 ± 3.0 DC when the set is operating normally with 120V AC supply.

(2) Hold-down operation confirmation

1. Connect an ammeter as shown to measure the I ABL terminal current.



2. Turn the POWER switch ON and receive white pattern (NTSC) signal and adjust the I ABL terminal current 1300 ± 30 [μ A] by PICTURE and BRIGHTNESS controls.

3. Apply DC voltage of over 16.4 V gradually to the protector terminal of H.V.R. via IT40 from the DC stabilized power source. Confirm that the minimum voltage is more than 16.4 V DC and less than 17.20 V DC whereby the raster disappears during operation of hold-down circuit.

NOTE: When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.

4. Turn the POWER switch ON and receive dot (NTSC) signal and adjust the I ABL terminal current 70 ± 30 [μ A] by PICTURE and BRIGHTNESS controls.

5. Apply DC voltage of over 17.9 V gradually to the protector terminal of H.V.R. via IT40 from the DC stabilized power source. Confirm that the minimum voltage is more than 17.9 V DC and less than 18.70 V DC whereby the raster disappears during operation of hold-down circuit.

NOTE: When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.

6. Disconnect the DC stabilized power source and voltage measuring equipment.

(3) Hold-down readjustment

When step (2) is not satisfied, readjustment should be performed by altering the resistance value of R829 (a component marked with).

(4) Confirmation of hold-down erroneous operation

1. Turn the POWER switch ON, and receive dot signals and set the PICTURE and BRIGHTNESS controls to minimum.
2. Confirm that the hold-down circuit does not operate by turning the POWER switch ON and OFF repeatedly several times.

NOTE: If the hold-down circuit starts operating in the above case, switch OFF the POWER of the set immediately.

3. Turn the POWER switch ON, and receive dot signals and entirely white signals and set the PICTURE and BRIGHTNESS controls to maximum.

4. Confirm that the hold-down circuit does not operate by performing switchover of the channels of the dot signals and entirely white signals several times.

NOTE: If the hold-down circuit starts operating in the above case, switch OFF the POWER of the set immediately.

5. If the above-mentioned steps 1 to 4 are not satisfied reconfirm steps (2) to (4) by altering the R829 smaller resistance value (a component marked with).

CONFIRMATION WHEN REPLACING H.V.R. (HIGH-VOLTAGE REGULATOR)

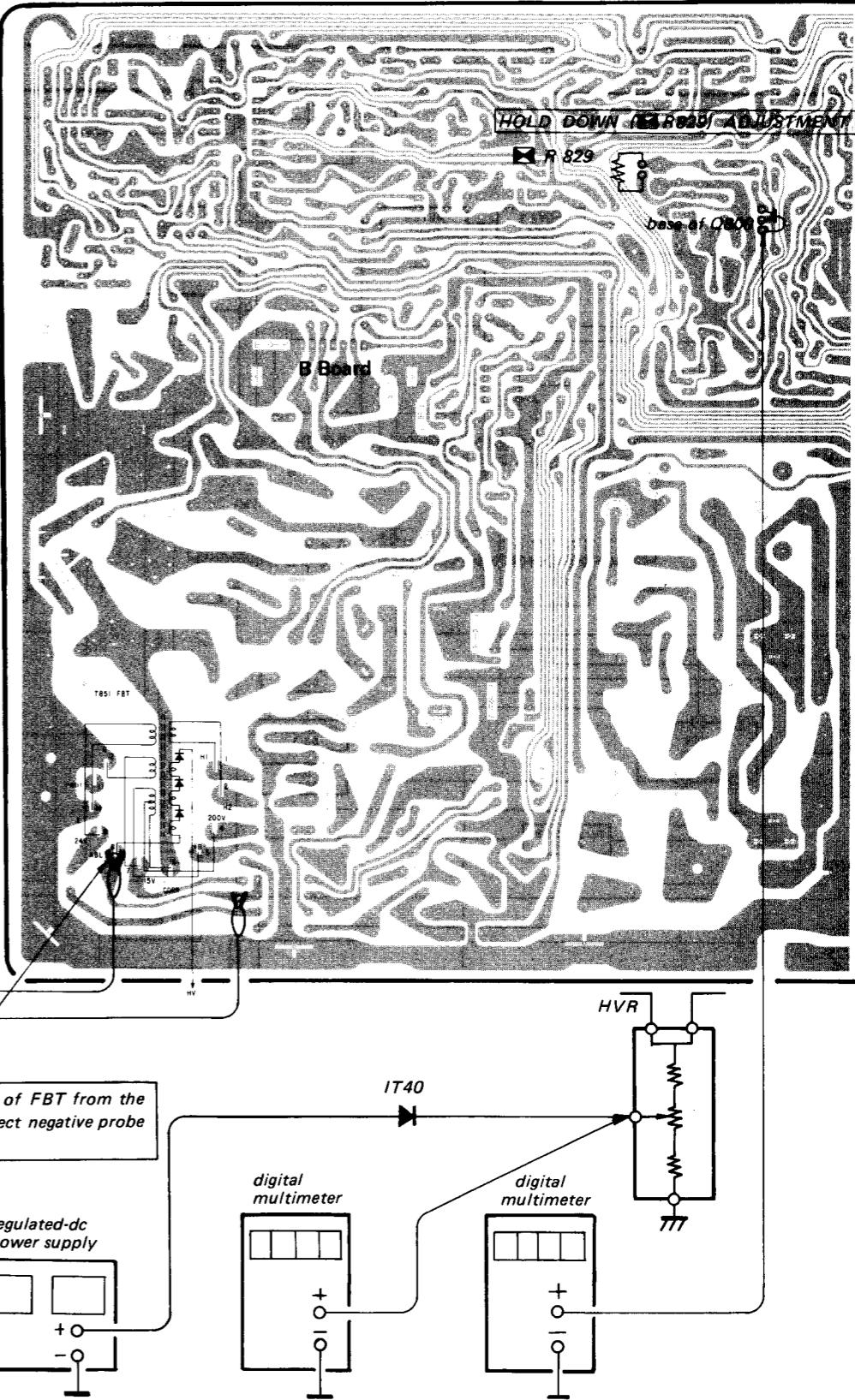
The following adjustments should always be performed with reference to whether an X-ray radiation control circuit is connected or not when replacing H.V.R. (High-Voltage Regulator)

* This check is to be performed when H.V.R. only is replaced, and has no relation to the hold-down circuit readjustment of parts marked .

(1) Connection confirmation

1. Turn the POWER switch ON, and receive dot signals and set the PICTURE and BRIGHTNESS controls to maximum.
2. When the set is operating normally with 120 V DC supply, confirm the voltage of the connection point for base of Q809 is 15.0 ± 3.0 V dc.

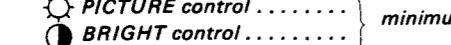
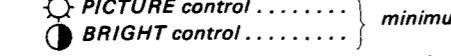
* Use a digital multimeter whose input impedance is over $100M\Omega$ when confirming the voltage of HVR.

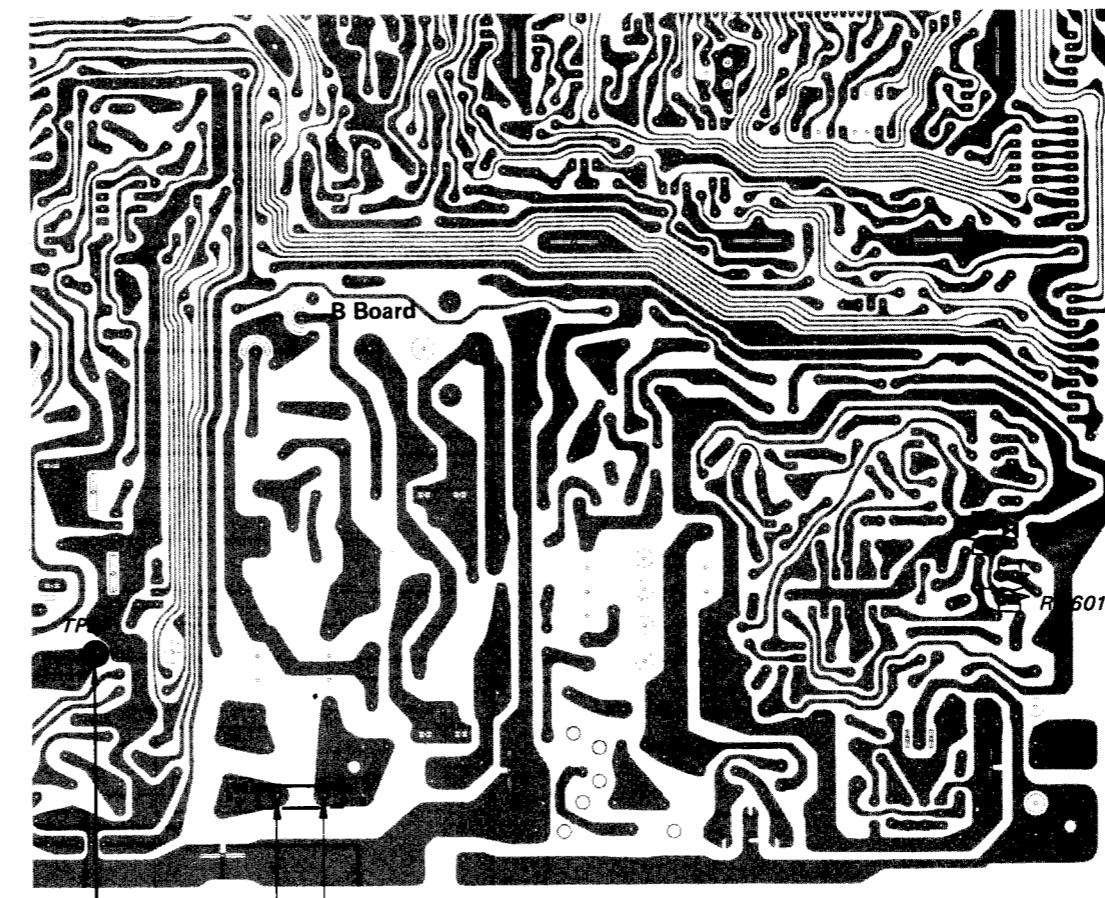
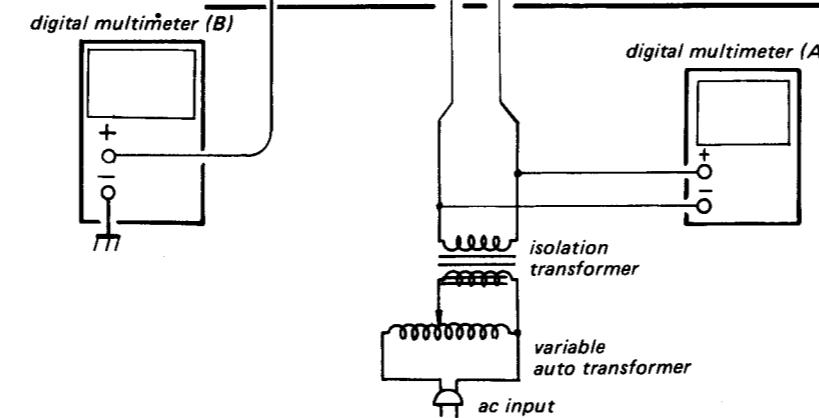


+B MAX (R687) ADJUSTMENT

When replacing the following components, make this adjustment.

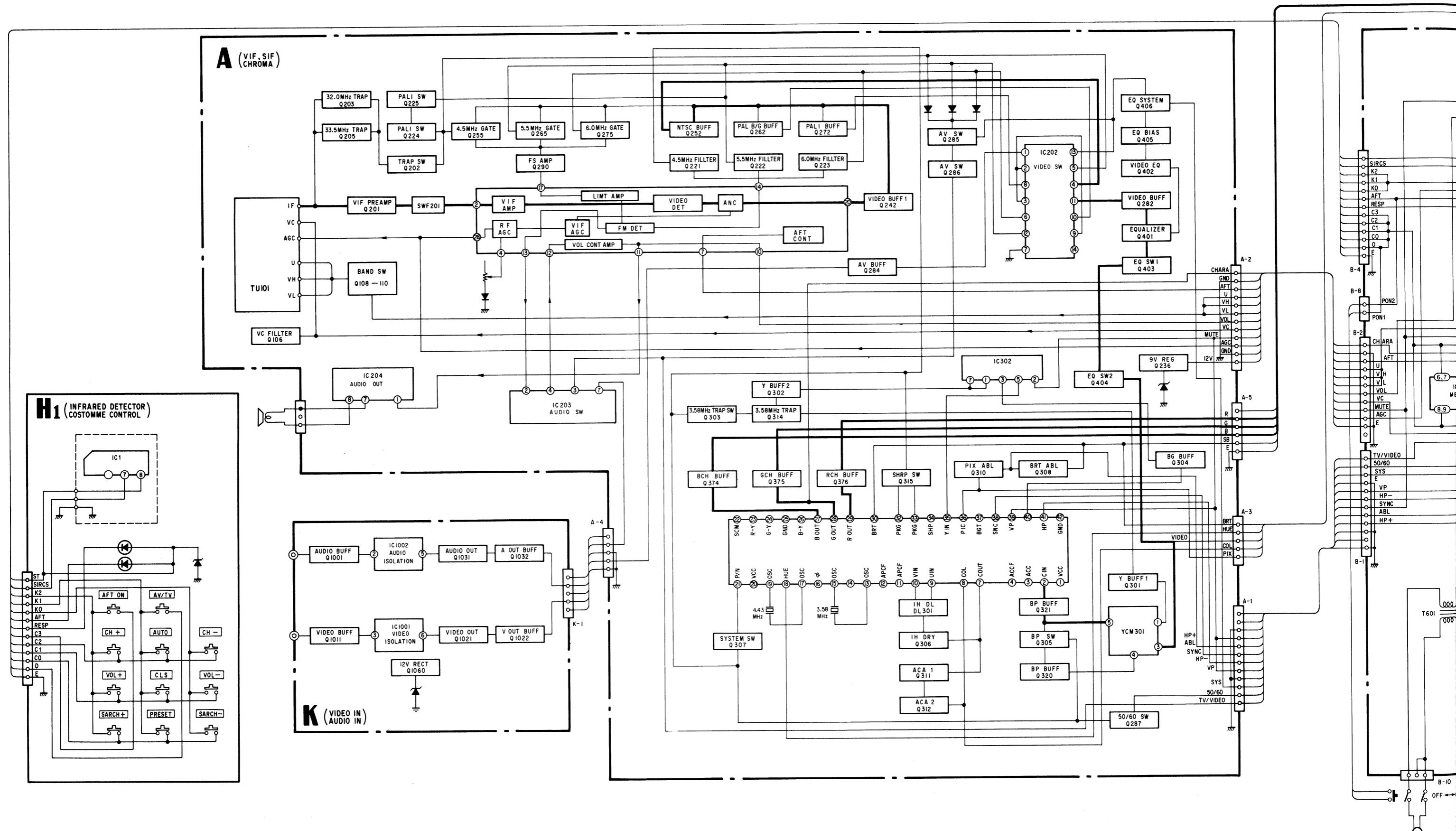
<input checked="" type="checkbox"/>	R687
<input checked="" type="checkbox"/>	IC601, D606, L606, RV601, R601, R602, R603, R604, R605, R623, R624, R625, R626, R629, R660, R687

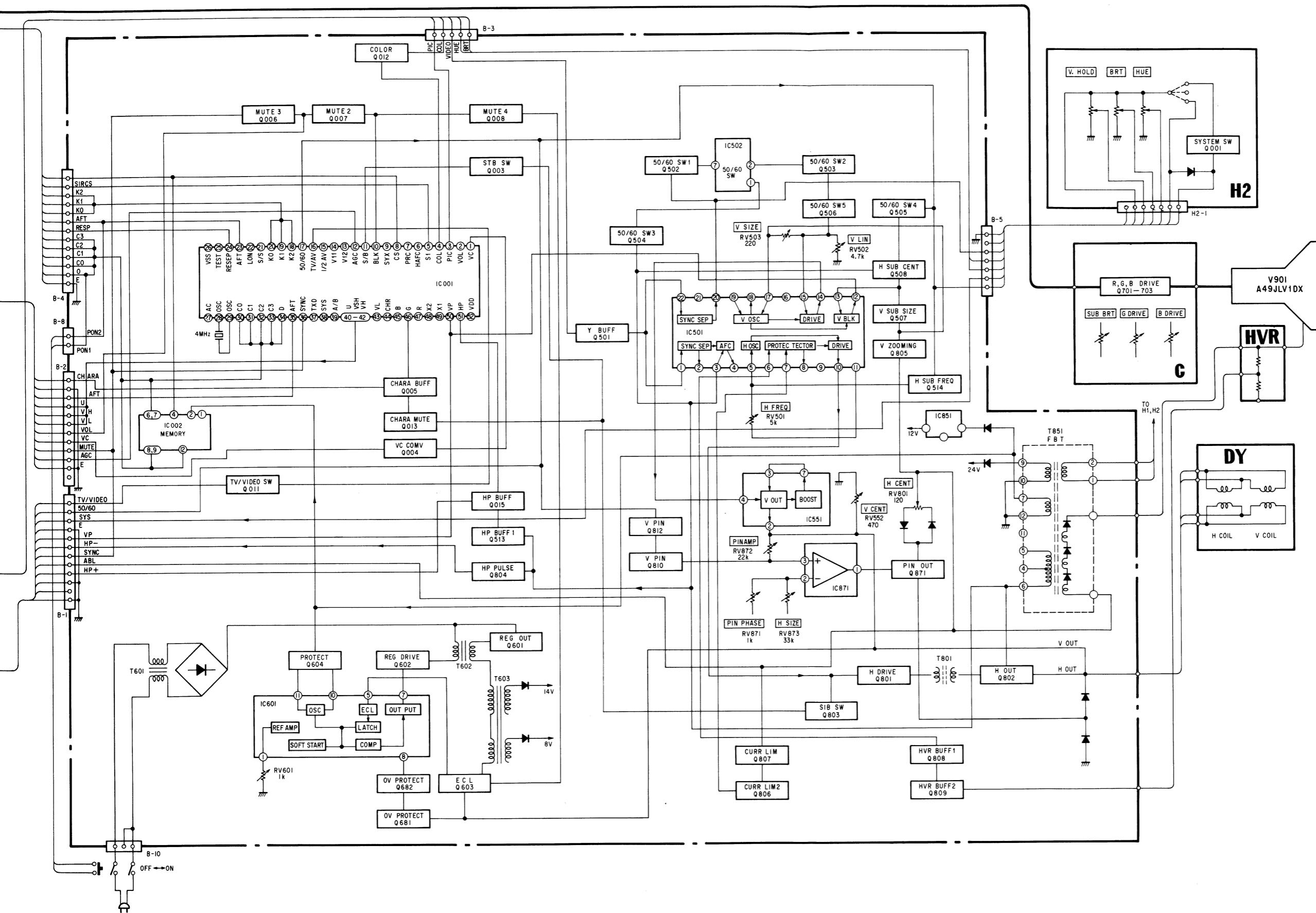
1. Feed in a dots pattern signal from color-bar/pattern generator.
2. Set the controls as shown below.
 PICTURE control } minimum
 BRIGHT control }
3. Readjust the variable autotransformer for 264 V ac on the digital multimeter (A).
4. Turn RV601 so that the voltage of digital multimeter (B) is maximum.
5. Confirm that the voltage reading on the digital multimeter (B) is less than 119.5 V dc.
6. If the step 5 is not satisfied, select the value of R687 so that the specification is met.

**+B MAX (R687)
ADJUSTMENT**

SECTION 5 DIAGRAMS

5-1. BLOCK DIAGRAM





SECTION 6

EXPLODED VIEWS

NOTE:

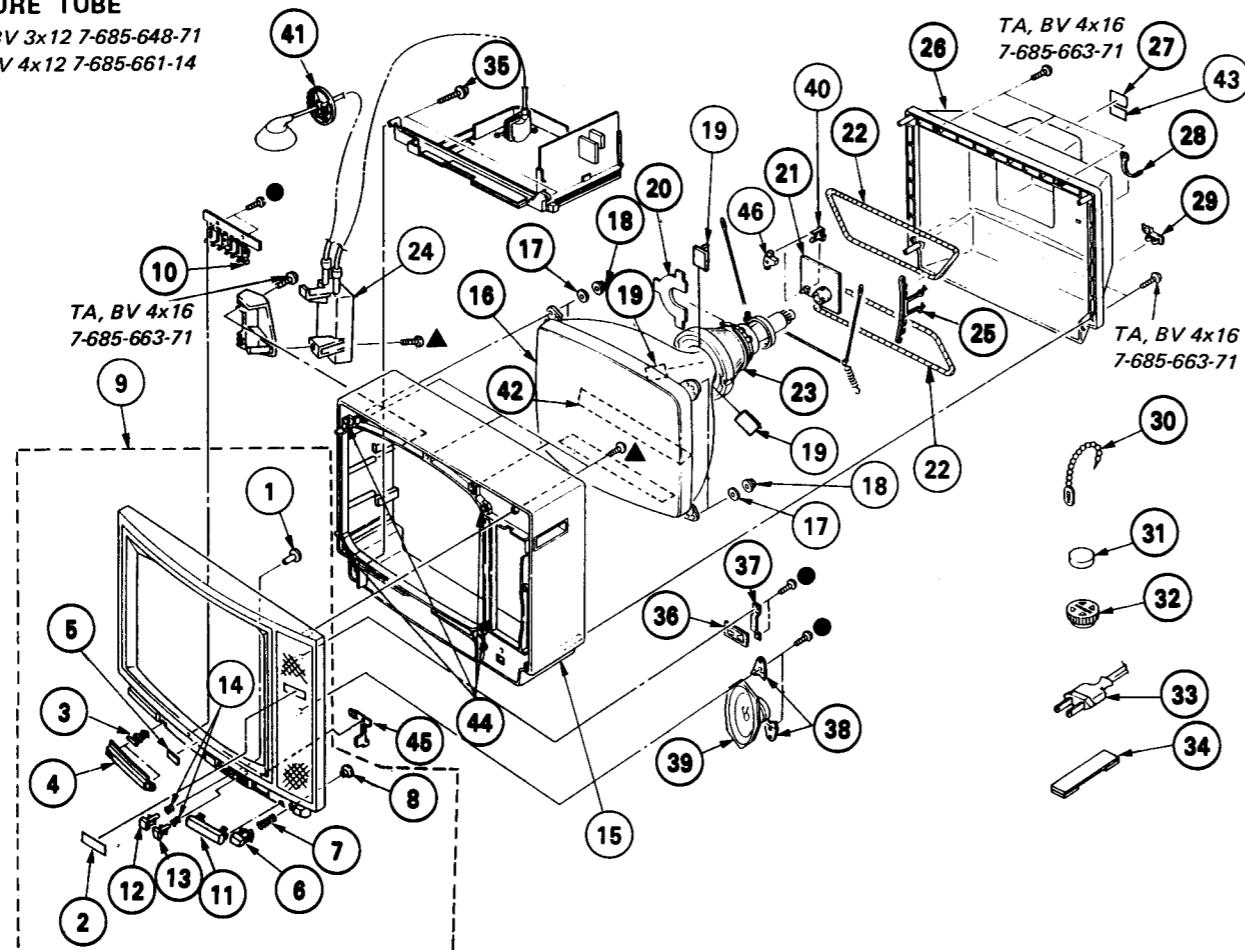
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a callout number in the remark column.

• Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

6-1. PICTURE TUBE

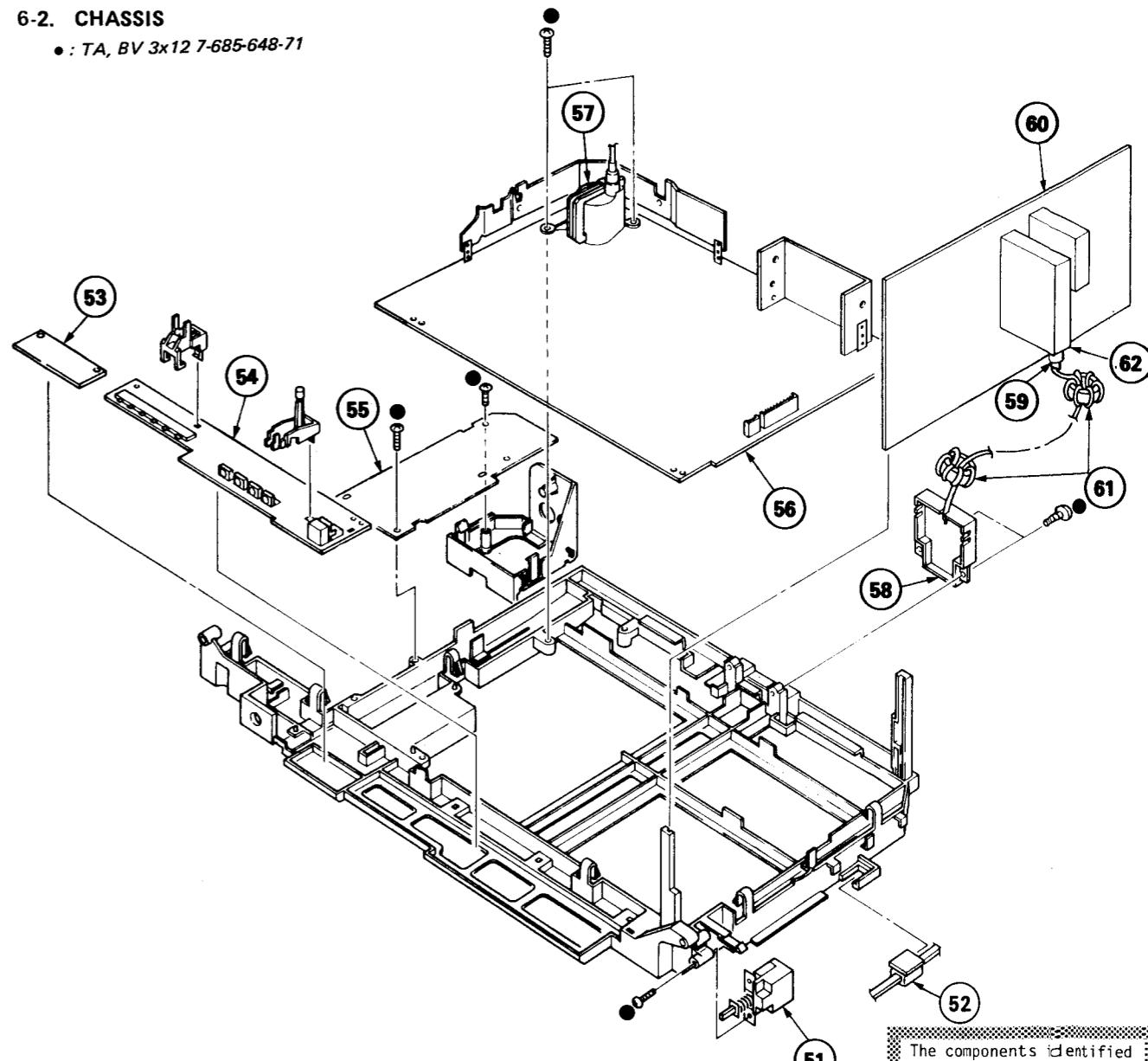
• : TA, BV 3x12 7-685-648-71
▲ : TA, BV 4x12 7-685-661-14



No.	Part No.	Description	Remark
1	*4-376-443-01	STOPPER (A), BUTTON	
2	X-4376-401-1	EMBLEM ASSY, TRINITRON	
3	3-662-365-00	SHAFT (S), DOOR	
4	X-4376-462-1	DOOR ASSY, CONTROL	
5	*4-374-115-01	EMBLEM, SONY	
6	4-376-411-01	BUTTON, POWER	
7	3-561-882-02	SPRING, COMPRESSION	
8	*4-376-405-01	STOPPER, BUTTON	
9	X-4376-464-1	BEZEL ASSY	1,2,5-8,11-14
10	4-376-469-11	BUTTON (A), MULTI	
11	4-376-454-31	WINDOW, ORNAMENTAL	
12	4-376-448-01	PUSH BUTTON (-)	
13	4-376-447-01	PUSH BUTTON (+)	
14	4-367-209-00	SPRING, COMPRESSION	
15	X-4376-465-1	CABINET ASSY	44
16	Δ 8-737-351-05	CRT (A49JLV10X)	
17	4-373-615-02	WASHER, CRT POSITIONING	
18	4-306-034-00	FLANGE NUT, (B) 5MM	
19	3-703-003-00	SPACER, DY	
20	1-452-277-00	MAGNET, BMC	
21	*A-1330-722-A	C BOARD, COMPLETE	
22	Δ 1-426-244-22	COTL, DEMAGNETIZATION	
23	Δ 1-451-272-12	DEFLECTION YOKE (SY-140A)	

6-2. CHASSIS

• : TA, BV 3x12 7-685-648-71



The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
51	Δ 1-554-966-12	SWITCH, PUSH (AC POWER)(1 KEY)		57	Δ .1-439-363-31	TRANSFORMER ASSY, FLYBACK	
52	Δ 4-022-115-01	HOLDER, AC CORD		58	Δ .1-536-494-11	ANT TERMINAL ASSY	
53	*1-619-223-11	H2 BOARD		59	*1-556-877-51	CABLE, PIN	
54	*1-619-222-11	H1 BOARD		60	*A-1296-163-A	A BOARD, COMPLETE	
55	*A-1385-039-A	K BOARD, COMPLETE		61	1-543-171-00	CORE, RING	
56	*A-1135-393-A	B BOARD, COMPLETE		62	Δ .1-463-661-11	TUNER, ET (BT-886)	

SECTION 7

ELECTRICAL PARTS LIST

NOTE:

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

- The components identified by **B** in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- RESISTORS
 - F : nonflammable
 - COILS
 - MMH : mH, UH : μ H
- CAPACITORS
 - MF : μ F, PF : $\mu\mu$ F
- When indicating parts by reference number, please include the board name.

B**B**

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark				
C611	1-102-973-00	CERAMIC	100PF	5%	50V	C835	1-131-351-00	TANTALUM	4.7MF	10%	35V
C612	1-121-919-00	ELECT	47MF	160V	C836	1-123-356-00	ELECT	10MF	20%	50V	
C613	1-162-116-00	CERAMIC	680PF	10%	2KV	C851	1-102-038-00	CERAMIC	0.001MF	500V	
C614	1-123-356-00	ELECT	10MF	20%	16V	C852	1-123-948-00	ELECT	22MF	20%	250V
C615	1-106-180-00	MYLAR	0.0022MF	5%	100V	C853	▲.1-102-223-21	CERAMIC	0.0047MF	10%	2KV
C616	1-101-810-00	CERAMIC	100PF	5%	500V	C854	1-123-383-00	ELECT	4.7MF	20%	100V
C619	1-101-821-00	CERAMIC	0.0022MF	500V	C855	1-123-334-00	ELECT	220MF	20%	25V	
C620	1-123-349-00	ELECT	1000MF	20%	25V	C856	1-108-425-00	MYLAR	0.022MF	10%	200V
C621	1-101-821-00	CERAMIC	0.0022MF	500V	C857	1-106-212-00	MYLAR	0.047MF	10%	100V	
C622	1-123-325-00	ELECT	2200MF	20%	16V	C858	1-102-038-00	CERAMIC	0.001MF	500V	
C623	1-161-830-00	CERAMIC	0.0047MF	500V	C859	1-108-425-00	MYLAR	0.022MF	10%	200V	
C624	1-161-830-00	CERAMIC	0.0047MF	500V	C860	1-102-038-00	CERAMIC	0.001MF	500V		
C625	1-102-228-00	CERAMIC	470PF	10%	500V	C870	1-123-356-00	ELECT	10MF	20%	16V
C626	1-161-830-00	CERAMIC	0.0047MF	500V	C871	1-123-332-00	ELECT	47MF	20%	25V	
C627	1-161-830-00	CERAMIC	0.0047MF	500V	C872	1-123-369-00	ELECT	4.7MF	20%	25V	
C628	1-162-116-00	CERAMIC	680PF	10%	2KV	C873	1-108-614-91	MYLAR	0.001MF	10%	100V
C630	1-102-157-00	CERAMIC	560PF	10%	500V	C874	1-108-627-91	MYLAR	0.012MF	10%	100V
C631	1-161-830-00	CERAMIC	0.0047MF	500V	C875	1-124-192-00	ELECT	4.7MF	20%	50V	
C632	1-108-620-91	MYLAR	0.0033MF	10%	100V	C876	1-108-616-91	MYLAR	0.0015MF	10%	100V
C633	1-162-115-00	CERAMIC	330PF	10%	2KV						
C634	1-102-002-00	CERAMIC	680PF	10%	500V						
C644	1-108-630-91	MYLAR	0.022MF	10%	100V	CF001	1-567-192-11	OSCILLATOR, CERAMIC			
C650	1-123-380-00	ELECT	1MF	20%	50V						
C507	1-106-196-00	MYLAR	0.01MF	10%	100V						
C508	1-123-380-00	ELECT	1MF	20%	50V						
C509	1-123-333-00	ELECT	100MF	20%	16V						
C801	1-102-114-00	CERAMIC	470PF	10%	50V	D001	8-719-911-19	DIODE	ISS119		
C802	1-123-380-00	ELECT	1MF	20%	50V	D003	8-719-911-19	DIODE	ISS119		
C803	1-123-379-00	ELECT	0.47MF	20%	50V	D004	8-719-911-19	DIODE	ISS119		
C804	1-102-114-00	CERAMIC	470PF	10%	50V	D005	8-719-911-19	DIODE	ISS119		
C805	1-102-030-00	CERAMIC	330PF	10%	500V	D006	8-719-911-19	DIODE	ISS119		
C806	1-108-614-91	MYLAR	0.001MF	10%	100V	D007	8-719-911-19	DIODE	ISS119		
C807	1-106-385-00	MYLAR	0.056MF	10%	200V	D009	8-719-102-30	DIODE	RD33E-L2		
C808	1-123-024-00	ELECT	33MF	160V	D011	8-719-911-19	DIODE	ISS119			
C809	1-108-435-00	MYLAR	0.15MF	10%	200V	D015	8-719-109-89	DIODE	RD5.6ES-B2		
C810	1-136-179-00	FILM	1.5MF	5%	200V	D016	8-719-911-19	DIODE	ISS119		
C811	▲.1-162-116-51	CERAMIC	680PF	10%	2KV	D017	8-719-911-19	DIODE	ISS119		
C812	▲.1-136-089-11	FILM	0.0056MF	3%	2KV	D018	8-719-101-41	DIODE	RD3.9E-L2		
C813	▲.1-161-754-11	CERAMIC	0.001MF	10%	3KV	D020	8-719-911-19	DIODE	ISS119		
C814	1-106-208-00	MYLAR	0.033MF	10%	100V	D021	8-719-911-19	DIODE	ISS119		
C815	1-123-382-00	ELECT	3.3MF	20%	50V	D022	8-719-911-19	DIODE	ISS119		
C816	1-102-963-00	CERAMIC	33PF	10%	50V	D501	8-719-911-19	DIODE	ISS119		
C817	▲.1-136-312-51	FILM	0.043MF	5%	400V	D502	8-719-911-19	DIODE	ISS119		
C818	1-136-184-00	MYLAR	0.68MF	10%	250V	D503	8-719-911-19	DIODE	ISS119		
C819	1-106-367-00	MYLAR	0.01MF	10%	200V	D504	8-719-911-19	DIODE	ISS119		
C820	1-136-116-00	FILM	1MF	5%	200V	D505	8-719-911-19	DIODE	ISS119		
C821	1-102-820-00	CERAMIC	330PF	5%	50V	D506	8-719-911-19	DIODE	ISS119		
C822	1-162-116-00	CERAMIC	680PF	10%	2KV	D551	8-719-911-55	DIODE	U05G		
C824	▲.1-136-057-11	FILM	0.0069MF	3%	2KV	D601	▲.8-719-503-06	DIODE	S3WB60Z		
C830	1-162-116-00	CERAMIC	680PF	10%	2KV	D603	8-719-924-06	DIODE	ERC24-06S		
C831	1-123-379-00	ELECT	0.47MF	20%	50V	D604	8-719-911-55	DIODE	U05G		
C832	1-123-379-00	ELECT	0.47MF	20%	50V	D605	8-719-924-06	DIODE	ERC24-06S		
C833	1-123-306-00	ELECT	47MF	20%	10V	D606	8-719-101-58	DIODE	RD5.6E-L2		
C834	1-123-357-00	ELECT	22MF	20%	50V	D608	8-719-924-06	DIODE	ERC24-06S		
C601	▲.1-130-680-61	FILM	0.1MF	20%	300V	D609	8-719-911-55	DIODE	U05G		
C603	1-125-222-21	ELECT(BLOCK)	330MF	20%	400V						
C604	1-121-919-00	ELECT	47MF	160V							
C605	1-102-244-00	CERAMIC	120PF	10%	500V						
C606	1-123-381-00	ELECT	2.2MF	20%	50V						
C607	1-102-824-00	CERAMIC	470PF	5%	50V						
C608	1-108-630-91	MYLAR	0.022MF	10%	100V						
C609	1-102-030-00	CERAMIC	330PF	10%	500V						
C610	1-108-688-91	MYLAR	0.0047MF	10%	200V						

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

B

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
D611	8-719-911-19	DIODE 1SS119		L851	1-408-163-00	MICRO INDUCTOR 5.6MMH	
D613	8-719-911-19	DIODE 1SS119		L852	A.1-459-442-11	COIL (WITH CORE)	
D681	8-719-101-50	DIODE RD5.1E-L2		L853	1-421-013-00	COIL, (HORIZONTAL CHOKE) 25UH	
D801	8-719-305-15	DIODE GH3F		L854	1-459-406-00	COIL (WITH CORE)	
D802	8-719-928-08	DIODE ERD28-08S		L871	1-459-075-00	COIL, DYNAMIC CONVERSION CHOKE	
D803	8-719-100-35	DIODE RD5.6E-B2					<u>TRANSISTOR</u>
D804	8-719-190-00	DIODE RD24E-BZ7		Q003	8-729-900-63	TRANSISTOR DTA124ES	
D805	8-719-911-19	DIODE 1SS119		Q004	8-729-603-50	TRANSISTOR 2SC403SP	
D811	8-719-911-19	DIODE 1SS119		Q005	8-729-178-54	TRANSISTOR 2SC2785	
D851	8-719-924-06	DIODE ERC24-06S		Q006	8-729-117-54	TRANSISTOR 2SA1175	
D852	8-719-300-65	DIODE ES1F		Q007	8-729-178-54	TRANSISTOR 2SC2785	
D853	8-719-924-06	DIODE ERC24-06S		Q008	8-729-117-54	TRANSISTOR 2SA1175	
D854	8-719-924-06	DIODE ERC24-06S		Q009	8-729-177-43	TRANSISTOR 2SD774	
D855	8-719-911-55	DIODE U05G		Q010	8-729-117-54	TRANSISTOR 2SA1175	
D856	8-719-911-55	DIODE U05G		Q011	8-729-900-36	TRANSISTOR DTC124ES	
D857	8-719-911-55	DIODE U05G		Q012	8-729-117-54	TRANSISTOR 2SA1175	
		<u>FUSE</u>		Q013	8-729-178-54	TRANSISTOR 2SC2785	
F601	A.1-532-350-11	FUSE, TIME-LAG 4A/250V		Q015	8-729-178-54	TRANSISTOR 2SC2785	
	1-533-087-00	HOLDER, FUSE; F601		Q501	8-729-178-54	TRANSISTOR 2SC2785	
F602	A.1-532-203-11	FUSE, TIME-LAG 2A/250V		Q502	8-729-178-54	TRANSISTOR 2SC2785	
	1-533-087-00	HOLDER, FUSE; F602		Q503	8-729-178-54	TRANSISTOR 2SC2785	
		<u>IC</u>		Q504	8-729-178-54	TRANSISTOR 2SC2785	
IC001	8-759-603-96	IC M50436-515SP		Q505	8-729-178-54	TRANSISTOR 2SC2785	
IC002	8-759-603-41	IC M58655P		Q506	8-729-178-54	TRANSISTOR 2SC2785	
IC003	8-759-157-40	IC UPC574J		Q507	8-729-178-54	TRANSISTOR 2SC2785	
IC501	8-759-100-60	IC UPC1377C		Q508	8-729-900-36	TRANSISTOR DTC124ES	
IC502	8-759-909-70	IC CX23025		Q513	8-729-178-54	TRANSISTOR 2SC2785	
IC551	8-759-113-78	IC UPC1378H-L		Q514	8-729-900-36	TRANSISTOR DTC124ES	
IC601	8-759-100-75	IC UPC1394C		Q601	8-729-304-94	TRANSISTOR 2SC3679-OF	
IC851	8-759-700-06	IC NJM7812B		Q602	8-729-195-82	TRANSISTOR 2SC2958	
IC871	8-759-145-58	IC UPC4558C		Q603	8-729-163-93	TRANSISTOR 2SA639S	
		<u>COIL</u>		Q604	8-729-178-54	TRANSISTOR 2SC2785	
L001	1-404-538-21	COIL		Q609	8-729-117-54	TRANSISTOR 2SA1175	
L002	1-408-409-00	MICRO INDUCTOR 10UH		Q681	8-729-178-54	TRANSISTOR 2SC2785	
L003	1-408-409-00	MICRO INDUCTOR 10UH		Q682	8-729-101-31	TRANSISTOR N13T1	
L501	1-407-556-00	CHOKE COIL		Q801	8-729-168-82	TRANSISTOR 2SC2688	
L601	1-408-300-00	MICRO INDUCTOR 6.8UH		Q802	8-729-800-87	TRANSISTOR 2SD1398	
L602	1-407-365-00	COIL, CHOKE		Q803	8-729-178-54	TRANSISTOR 2SC2785	
L604	1-421-013-00	COIL, (HORIZONTAL CHOKE) 25UH		Q804	8-729-178-54	TRANSISTOR 2SC2785	
L606	1-407-556-00	CHOKE COIL		Q805	8-729-178-54	TRANSISTOR 2SC2785	
L610	1-407-841-00	COIL 15UH		Q806	8-729-117-54	TRANSISTOR 2SA1175	
L611	1-407-841-00	COIL 15UH		Q807	8-729-178-54	TRANSISTOR 2SC2785	
L801	1-408-225-00	MICRO INDUCTOR 3.3UH		Q808	8-729-178-54	TRANSISTOR 2SC2785	
L802	1-407-365-00	COIL, CHOKE		Q809	8-729-309-08	TRANSISTOR 2SC1890A	
L803	A.1-459-104-11	COIL, DUST CORE		Q810	8-729-117-54	TRANSISTOR 2SA1175	
L804	1-408-239-00	MICRO INDUCTOR 4.7MMH		Q812	8-729-900-36	TRANSISTOR DTC124ES	
L805	A.1-459-241-11	COIL, HORIZONTAL LINIALITY		Q871	8-729-313-42	TRANSISTOR 2SD1134	
		<u>RESISTOR</u>					
L806	A.1-459-390-11	COIL (WITH CORE)		R009	1-247-823-00	CARBON	470 5% 1/6W
L807	1-407-365-00	COIL, CHOKE		R010	1-249-425-11	CARBON	4.7K 5% 1/6W
L810	A.1-459-232-11	COIL, CORE		R011	1-249-425-11	CARBON	4.7K 5% 1/6W

The components identified by shading and mark A are critical for safety. Replace only with part number specified.

B

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R013	1-249-417-11	CARBON	1K 5% 1/6W	R076	1-247-823-00	CARBON	470 5% 1/6W
R014	1-249-432-11	CARBON	18K 5% 1/6W	R077	1-249-441-11	CARBON	100K 5% 1/6W
R015	1-247-859-00	CARBON	15K 5% 1/6W	R078	1-249-437-11	CARBON	47K 5% 1/6W
R016	1-249-433-11	CARBON	22K 5% 1/6W	R079	1-249-465-11	CARBON	47K 5% 1/4W
R017	1-249-434-11	CARBON	27K 5% 1/6W	R080	1-249-425-11	CARBON	4.7K 5% 1/6W
R018	1-249-433-11	CARBON	22K 5% 1/6W	R081	1-249-437-11	CARBON	47K 5% 1/6W
R019	1-247-869-00	CARBON	39K 5% 1/6W	R082	1-247-700-11	CARBON	100 5% 1/4W
R021	1-247-163-00	CARBON	22K 5% 1/4W	R083	1-249-425-11	CARBON	4.7K 5% 1/6W
R022	1-249-433-11	CARBON	22K 5% 1/6W	R084	1-247-873-00	CARBON	56K 5% 1/6W
R023	1-249-429-11	CARBON	10K 5% 1/6W	R085	1-247-859-00	CARBON	15K 5% 1/6W
R024	1-249-433-11	CARBON	22K 5% 1/6W	R086	1-249-429-11	CARBON	10K 5% 1/6W
R025	1-249-433-11	CARBON	22K 5% 1/6W	R087	1-249-429-11	CARBON	10K 5% 1/6W
R026	1-247-823-00	CARBON	470 5% 1/6W	R089	1-249-429-11	CARBON	10K 5% 1/6W
R027	1-247-823-00	CARBON	470 5% 1/6W	R090	1-249-415-11	CARBON	680 5% 1/6W
R028	1-247-823-00	CARBON	470 5% 1/6W	R091	1-247-823-00	CARBON	470 5% 1/6W
R029	1-247-823-00	CARBON	470 5% 1/6W	R092	1-249-429-11	CARBON	10K 5% 1/6W
R030	1-247-823-00	CARBON	470 5% 1/6W	R093	1-247-823-00	CARBON	470 5% 1/6W
R031	1-247-823-00	CARBON	470 5% 1/6W	R095	1-249-429-11	CARBON	10K 5% 1/6W
R032	1-247-823-00	CARBON	470 5% 1/6W	R097	1-249-440-11	CARBON	82K 5% 1/6W
R033	1-247-725-11	CARBON	10K 5% 1/4W	R098	1-249-425-11	CARBON	4.7K 5% 1/6W
R035	1-247-903-00	CARBON	1M 5% 1/6W	R500	1-247-713-11	CARBON	1K 5% 1/4W
R036	1-249-441-11	CARBON	100K 5% 1/6W	R501	1-249-405-11	CARBON	100 5% 1/6W
R037	1-247-823-00	CARBON	470 5% 1/6W	R502	1-249-405-11	CARBON	100 5% 1/6W
R038	1-247-823-00	CARBON	470 5% 1/6W	R503	1-247-823-00	CARBON	470 5% 1/6W
R039	1-249-429-11	CARBON	10K 5% 1/6W	R504	1-247-815-00	CARBON	220 5% 1/6W
R040	1-249-429-11	CARBON	10K 5% 1/6W	R505	1-247-817-00	CARBON	270 5% 1/6W
R041	1-247-823-00	CARBON	470 5% 1/6W	R506	1-249-393-11	CARBON	10 5% 1/6W F
R043	1-247-823-00	CARBON	470 5% 1/6W	R507	1-249-413-11	CARBON	470 5% 1/6W F
R045	1-247-823-00	CARBON	470 5% 1/6W	R508	1-249-422-11	CARBON	2.7K 5% 1/6W
R046	1-247-823-00	CARBON	470 5% 1/6W	R509	1-247-845-00	CARBON	3.9K 5% 1/6W
R047	1-249-429-11	CARBON	10K 5% 1/6W	R510	1-249-435-11	CARBON	33K 5% 1/6W
R048	1-247-823-00	CARBON	470 5% 1/6W	R511	1-215-461-00	METAL	47K 1% 1/6W
R049	1-247-875-00	CARBON	68K 5% 1/6W	R512	1-249-417-11	CARBON	1K 5% 1/6W
R050	1-249-421-11	CARBON	2.2K 5% 1/6W	R513	1-215-475-00	METAL	180K 1% 1/6W
R051	1-247-853-00	CARBON	8.2K 5% 1/6W	R514	1-215-455-00	METAL	27K 1% 1/6W
R052	1-206-696-00	METAL OXIDE	22K 5% 2W F	R515	1-249-429-11	CARBON	10K 5% 1/6W
R053	1-247-819-00	CARBON	330 5% 1/6W	R516	1-215-463-00	METAL	56K 1% 1/6W
R054	1-249-377-11	CARBON	0.47 5% 1/6W F	R517	1-249-429-11	CARBON	10K 5% 1/6W
R055	1-249-417-11	CARBON	1K 5% 1/6W	R518	1-247-849-00	CARBON	5.6K 5% 1/6W
R056	1-249-417-11	CARBON	1K 5% 1/6W	R519	1-249-415-11	CARBON	680 5% 1/6W
R057	1-249-429-11	CARBON	10K 5% 1/6W	R520	1-249-414-11	CARBON	560 5% 1/6W
R059	1-249-433-11	CARBON	22K 5% 1/6W	R521	1-247-857-00	CARBON	12K 5% 1/6W
R061	1-249-429-11	CARBON	10K 5% 1/6W	R522	1-247-815-00	CARBON	220 5% 1/6W
R062	1-247-851-00	CARBON	6.8K 5% 1/6W	R523	1-247-820-00	CARBON	360 5% 1/6W
R063	1-247-853-00	CARBON	8.2K 5% 1/6W	R524	1-215-460-00	METAL	43K 1% 1/6W
R064	1-249-405-11	CARBON	100 5% 1/6W	R525	1-249-427-11	CARBON	6.8K 5% 1/6W F
R065	1-247-823-00	CARBON	470 5% 1/6W	R526	1-249-393-11	CARBON	10 5% 1/6W F
R066	1-247-819-00	CARBON	330 5% 1/6W	R527	1-247-711-11	CARBON	680 5% 1/4W F
R067	1-247-851-00	CARBON	6.8K 5% 1/6W	R528	1-206-694-00	METAL OXIDE	18K 5% 2W F
R068	1-247-721-11	CARBON	4.7K 5% 1/4W	R529	1-249-423-11	CARBON	3.3K 5% 1/6W
R071	1-247-900-00	CARBON	750K 5% 1/6W	R530	1-249-440-11	CARBON	82K 5% 1/6W
R072	1-249-437-11	CARBON	47K 5% 1/6W	R531	1-249-440-11	CARBON	82K 5% 1/6W
R075	1-249-429-11	CARBON	10K 5% 1/6W	R532	1-247-857-00	CARBON	12K 5% 1/6W

B

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
R533	1-249-435-11	CARBON	33K 5% 1/6W	R623	1-247-891-00	CARBON	330K 5% 1/6W
R534	1-247-859-00	CARBON	15K 5% 1/6W	R624	1-215-453-00	METAL	22K 1% 1/6W
R551	1-249-425-11	CARBON	4.7K 5% 1/6W	R625	1-215-453-00	METAL	22K 1% 1/6W
R552	1-213-139-00	METAL OXIDE	470 5% 1W F	R626	1-247-708-11	CARBON	470 5% 1/4W
R555	1-214-681-00	METAL	10 1% 1/4W	R627	1-247-887-00	CARBON	220K 5% 1/6W
R556	1-247-226-00	CARBON	270 5% 1/2W	R628	1-247-873-00	CARBON	56K 5% 1/6W
R557	1-212-363-00	METAL OXIDE	1.8 5% 1W F	R629	1-247-903-00	CARBON	1M 5% 1/6W
R558	1-247-769-00	CARBON	2.7 5% 1/6W	R630 A 1-205-758-11	CEMENTED	100 10% 10W F	
R561	1-246-525-00	CARBON	150K 5% 1/4W	R631 A 1-205-758-11	CEMENTED	100 10% 10W F	
R562	1-249-441-11	CARBON	100K 5% 1/6W	R632	1-247-887-00	CARBON	220K 5% 1/6W
R563	1-247-903-00	CARBON	1M 5% 1/6W	R633	1-249-437-11	CARBON	47K 5% 1/6W
R570	1-249-437-11	CARBON	47K 5% 1/6W	R634	1-247-878-00	CARBON	91K 5% 1/6W
R571	1-249-437-11	CARBON	47K 5% 1/6W	R635	1-249-443-11	CARBON	0.47 5% 1/4W F
R572	1-249-437-11	CARBON	47K 5% 1/6W	R636	1-249-443-11	CARBON	0.47 5% 1/4W F
R573	1-249-437-11	CARBON	47K 5% 1/6W	R637	1-249-413-11	CARBON	470 5% 1/6W F
R574	1-249-437-11	CARBON	47K 5% 1/6W	R640	1-206-644-00	METAL OXIDE	150 5% 2W F
R575	1-249-433-11	CARBON	22K 5% 1/6W	R642	1-249-429-11	CARBON	10K 5% 1/6W
R576	1-249-419-11	CARBON	1.5K 5% 1/6W	R645	1-244-927-00	CARBON	180K 5% 1/2W
R577	1-249-437-11	CARBON	47K 5% 1/6W	R646	1-249-411-11	CARBON	330 5% 1/6W F
R578	1-249-437-11	CARBON	47K 5% 1/6W	R653	1-247-823-00	CARBON	470 5% 1/6W
R579	1-249-437-11	CARBON	47K 5% 1/6W	R654	1-247-799-00	CARBON	47 5% 1/6W
R580	1-249-419-11	CARBON	1.5K 5% 1/6W	R655	1-244-929-00	CARBON	220K 5% 1/2W
R581	1-249-437-11	CARBON	47K 5% 1/6W	R656	1-249-421-11	CARBON	2.2K 5% 1/6W
R582	1-249-419-11	CARBON	1.5K 5% 1/6W	R660 A 1-215-899-51	METAL OXIDE	15K 5% 2W F	
R583	1-249-437-11	CARBON	47K 5% 1/6W	R661	1-247-895-00	CARBON	470K 5% 1/6W
R584	1-247-887-00	CARBON	220K 5% 1/6W	R671	1-244-927-00	CARBON	180K 5% 1/2W
R585	1-247-853-00	CARBON	8.2K 5% 1/6W	R672	1-244-927-00	CARBON	180K 5% 1/2W
R586	1-247-845-00	CARBON	3.9K 5% 1/6W	R674	1-247-859-00	CARBON	15K 5% 1/6W
R587	1-249-437-11	CARBON	47K 5% 1/6W	R675	1-247-801-00	CARBON	56 5% 1/6W
R588	1-249-422-11	CARBON	2.7K 5% 1/6W	R681	1-215-471-00	METAL	120K 1% 1/6W
R590	1-247-881-00	CARBON	120K 5% 1/6W	R682	1-215-437-00	METAL	4.7K 1% 1/6W
R592	1-249-433-11	CARBON	22K 5% 1/6W	R683	1-249-441-11	CARBON	100K 5% 1/6W
R593	1-249-426-11	CARBON	5.6K 5% 1/6W F	R684	1-249-425-11	CARBON	4.7K 5% 1/6W
R596	1-249-433-11	CARBON	22K 5% 1/6W	R685	1-249-433-11	CARBON	22K 5% 1/6W
R601	1-214-777-00	METAL	100K 1% 1/4W	R686	1-249-417-11	CARBON	1K 5% 1/6W
R602	1-247-829-00	CARBON	820 5% 1/6W	R687 A.		METAL	1/6W
R603	1-215-431-00	METAL	2.7K 1% 1/6W	R801	1-247-809-00	CARBON	120 5% 1/6W
R604	1-202-735-00	SOLID	22M 10% 1/2W	R802	1-249-437-11	CARBON	47K 5% 1/6W
R605 A 1-216-514-51	METAL OXIDE	39K 5% 5W F	R803	1-249-421-11	CARBON	2.2K 5% 1/6W	
R606	1-205-790-11	CEMENTED	5.6 5% 20W	R804	1-249-425-11	CARBON	4.7K 5% 1/6W
R608	1-249-434-11	CARBON	27K 5% 1/6W	R805	1-249-420-11	CARBON	1.8K 5% 1/6W F
R609	1-249-429-11	CARBON	10K 5% 1/6W	R806	1-205-642-00	CEMENTED	3.3K 10% 5W
R610	1-249-425-11	CARBON	4.7K 5% 1/6W	R807	1-249-393-11	CARBON	10 5% 1/6W F
R611	1-249-416-11	CARBON	820 5% 1/6W F	R808	1-249-405-11	CARBON	100 5% 1/6W
R612	1-249-414-11	CARBON	560 5% 1/6W	R809	1-213-147-00	METAL OXIDE	2.2K 5% 1W F
R613	1-247-889-00	CARBON	270K 5% 1/6W	R810	1-212-371-00	METAL OXIDE	8.2 5% 1W F
R614	1-247-851-00	CARBON	6.8K 5% 1/6W	R811	1-213-129-00	METAL OXIDE	68 5% 1W F
R616	1-217-194-00	WIREWOUND	0.33 10% 2W F	R812	1-249-428-11	CARBON	8.2K 5% 1/6W F
R617	1-249-417-11	CARBON	1K 5% 1/6W F	R814	1-249-429-11	CARBON	10K 5% 1/6W
R618	1-247-805-00	CARBON	82 5% 1/6W	R815	1-247-829-00	CARBON	820 5% 1/6W
R619	1-205-687-00	CEMENTED	54K 10% 7W	R816	1-249-414-11	CARBON	560 5% 1/6W
R620	1-206-690-00	METAL OXIDE	12K 5% 2W F	R817	1-249-405-11	CARBON	100 5% 1/6W
R622	1-247-866-00	CARBON	30K 5% 1/6W	R820	1-249-469-11	CARBON	100K 5% 1/4W

- The components identified by  in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

The components identified by shading and mark  are critical for safety. Replace only with part number specified.

B A

- The components identified by  in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

A

A

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>				
CT252	1-409-332-00	CERAMIC TRAP' (4.5MHZ)		L208	1-408-397-00	MICRO INDUCTOR 1UH					
CT262	1-404-134-00	TRAP, CERAMIC (5.5MHZ)		L210	1-408-401-00	MICRO INDUCTOR 2.2UH					
CT272	1-409-333-00	TRAP, CERAMIC (6.0MHZ)		L220	1-408-418-00	MICRO INDUCTOR 56UH					
SWF201	1-404-701-11	SAWF		L221	1-408-414-00	MICRO INDUCTOR 27UH					
<u>TRIMMER</u>											
CV341	1-141-181-11	CAP, TRIMMER		L223	1-408-413-00	MICRO INDUCTOR 22UH					
CV351	1-141-181-11	CAP, TRIMMER		L252	1-408-411-00	MICRO INDUCTOR 15UH					
<u>DIODE</u>											
D102	8-719-101-37	DIODE RD3.3E-L2		L272	1-408-411-00	MICRO INDUCTOR 15UH					
D103	8-719-911-19	DIODE 1SS119		L275	1-408-399-00	MICRO INDUCTOR 1.5UH					
D200	8-719-911-19	DIODE 1SS119		L287	1-407-693-00	MICRO INDUCTOR 10UH					
D224	8-719-911-19	DIODE 1SS119		L292	1-407-698-00	MICRO INDUCTOR 27UH					
D225	8-719-911-19	DIODE 1SS119		L297	1-408-408-00	MICRO INDUCTOR 8.2UH					
D237	8-719-911-19	DIODE 1SS119		L303	1-408-414-00	MICRO INDUCTOR 27UH					
D257	8-719-815-55	DIODE 1S1555		L307	1-408-416-00	MICRO INDUCTOR 39UH					
D267	8-719-815-55	DIODE 1S1555		L321	1-408-416-00	MICRO INDUCTOR 39UH					
D277	8-719-815-55	DIODE 1S1555		L334	1-408-409-00	MICRO INDUCTOR 10UH					
D291	8-719-911-19	DIODE 1SS119		L345	1-407-507-00	MICRO INDUCTOR 18MMH					
D292	8-719-911-19	DIODE 1SS119		L374	1-408-409-00	MICRO INDUCTOR 10UH					
D308	8-719-911-19	DIODE 1SS119		L375	1-408-409-00	MICRO INDUCTOR 10UH					
D311	8-719-815-55	DIODE 1S1555		L376	1-408-409-00	MICRO INDUCTOR 10UH					
D312	8-719-815-55	DIODE 1S1555		L377	1-408-416-00	MICRO INDUCTOR 39UH					
D326	8-719-911-19	DIODE 1SS119		L402	1-408-418-00	MICRO INDUCTOR 56UH					
D327	8-719-911-19	DIODE 1SS119		L403	1-408-422-00	MICRO INDUCTOR 120UH					
D328	8-719-911-19	DIODE 1SS119		<u>TRANSISTOR</u>							
D344	8-719-815-55	DIODE 1S1555		Q106	8-729-178-54	TRANSISTOR 2SC2785					
D349	8-719-911-19	DIODE 1SS119		Q108	8-729-117-54	TRANSISTOR 2SA1175					
D374	8-719-815-55	DIODE 1S1555		Q109	8-729-117-54	TRANSISTOR 2SA1175					
D375	8-719-815-55	DIODE 1S1555		Q110	8-729-117-54	TRANSISTOR 2SA1175					
D376	8-719-815-55	DIODE 1S1555		Q201	8-729-105-47	TRANSISTOR 2SC2026-L					
D401	8-719-911-19	DIODE 1SS119		Q202	8-729-178-54	TRANSISTOR 2SC2785					
D402	8-719-815-55	DIODE 1S1555		Q203	8-729-178-54	TRANSISTOR 2SC2785					
D403	8-719-911-19	DIODE 1SS119		Q205	8-729-178-54	TRANSISTOR 2SC2785					
D404	8-719-911-19	DIODE 1SS119		Q221	8-729-900-89	TRANSISTOR DTC144ES					
<u>DELAY LINE</u>											
DL301	1-415-122-31	DELAY LINE, 1H (PAL)		Q222	8-729-900-89	TRANSISTOR DTC144ES					
<u>IC</u>											
IC201	8-752-001-51	IC CX20015A		Q223	8-729-900-89	TRANSISTOR DTC144ES					
IC202	8-759-140-66	IC UPD4066BC		Q224	8-729-900-89	TRANSISTOR DTC144ES					
IC203	8-752-006-10	IC CX20061		Q225	8-729-178-54	TRANSISTOR 2SC2785					
IC204	8-759-101-77	IC UPC1241H		Q252	8-729-178-54	TRANSISTOR 2SK105A-30					
IC301	8-752-030-86	IC CXA1001AP		Q255	8-729-115-30	TRANSISTOR 2SK105A-30					
IC302	8-759-913-11	IC CX20125		Q262	8-729-178-54	TRANSISTOR 2SC2785					
<u>COIL</u>											
L200	1-408-401-00	MICRO INDUCTOR 2.2UH		Q265	8-729-115-30	TRANSISTOR 2SK105A-30					
L203	1-409-372-00	COIL, TRAP		Q272	8-729-178-54	TRANSISTOR 2SC2785					
L205	1-409-372-00	COIL, TRAP		Q275	8-729-115-30	TRANSISTOR 2SK105A-30					
				Q282	8-729-178-54	TRANSISTOR 2SC2785					
				Q284	8-729-178-54	TRANSISTOR 2SC2785					
				Q285	8-729-900-89	TRANSISTOR DTC144ES					
				Q286	8-729-900-89	TRANSISTOR DTC144ES					

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<u>Ref.No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	<u>Ref.No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
Q287	8-729-178-54	TRANSISTOR 2SC2785		R217	1-249-422-11	CARBON	2.7K 5% 1/6W
Q290	8-729-178-54	TRANSISTOR 2SC2785		R218	1-249-417-11	CARBON	1K 5% 1/6W
Q301	8-729-178-54	TRANSISTOR 2SC2785		R219	1-249-421-11	CARBON	2.2K 5% 1/6W
Q302	8-729-178-54	TRANSISTOR 2SC2785		R220	1-247-706-11	CARBON	330 5% 1/4W
Q303	8-729-900-89	TRANSISTOR DTC144ES		R221	1-249-417-11	CARBON	1K 5% 1/6W
Q304	8-729-178-54	TRANSISTOR 2SC2785		R222	1-247-828-00	CARBON	750 5% 1/6W
Q305	8-729-178-54	TRANSISTOR 2SC2785		R223	1-249-417-11	CARBON	1K 5% 1/6W
Q306	8-729-178-54	TRANSISTOR 2SC2785		R224	1-247-881-00	CARBON	120K 5% 1/6W
Q307	8-729-900-89	TRANSISTOR DTC144ES		R225	1-247-881-00	CARBON	120K 5% 1/6W
Q308	8-729-178-54	TRANSISTOR 2SC2785		R226	1-247-881-00	CARBON	120K 5% 1/6W
Q310	8-729-178-54	TRANSISTOR 2SC2785		R227	1-249-425-11	CARBON	4.7K 5% 1/6W
Q311	8-729-117-54	TRANSISTOR 2SA1175		R228	1-249-433-11	CARBON	22K 5% 1/6W
Q312	8-729-900-36	TRANSISTOR DTC124ES		R230	1-247-771-00	CARBON	3.3 5% 1/6W
Q314	8-729-115-30	TRANSISTOR 2SK105A-30		R231	1-249-433-11	CARBON	22K 5% 1/6W
Q315	8-729-105-73	TRANSISTOR 2SK523-L2		R232	1-249-429-11	CARBON	10K 5% 1/6W
Q320	8-729-178-54	TRANSISTOR 2SC2785		R233	1-247-845-00	CARBON	3.9K 5% 1/6W
Q321	8-729-178-54	TRANSISTOR 2SC2785		R234	1-249-441-11	CARBON	100K 5% 1/6W
Q374	8-729-117-54	TRANSISTOR 2SA1175		R235	1-247-815-00	CARBON	220 5% 1/6W
Q375	8-729-117-54	TRANSISTOR 2SA1175		R236	1-247-833-00	CARBON	1.2K 5% 1/6W
Q376	8-729-117-54	TRANSISTOR 2SA1175		R237	1-247-851-00	CARBON	6.8K 5% 1/6W
Q401	8-729-178-54	TRANSISTOR 2SC2785		R238	1-247-851-00	CARBON	6.8K 5% 1/6W
Q402	8-729-178-54	TRANSISTOR 2SC2785		R239	1-249-433-11	CARBON	22K 5% 1/6W
Q403	8-729-117-54	TRANSISTOR 2SA1175		R240	1-249-433-11	CARBON	22K 5% 1/6W
Q404	8-729-117-54	TRANSISTOR 2SA1175		R241	1-247-811-00	CARBON	150 5% 1/6W
Q405	8-729-178-54	TRANSISTOR 2SC2785		R242	1-247-821-00	CARBON	390 5% 1/6W
Q406	8-729-900-89	TRANSISTOR DTC144ES		R244	1-247-819-00	CARBON	330 5% 1/6W
<u>RESISTOR</u>							
R101	1-249-435-11	CARBON	33K 5% 1/6W	R245	1-249-437-11	CARBON	47K 5% 1/6W
R102	1-249-423-11	CARBON	3.3K 5% 1/6W	R247	1-247-849-00	CARBON	5.6K 5% 1/6W
R103	1-249-425-11	CARBON	4.7K 5% 1/6W	R250	1-247-829-00	CARBON	820 5% 1/6W
R104	1-249-421-11	CARBON	2.2K 5% 1/6W	R251	1-247-817-00	CARBON	270 5% 1/6W
R105	1-249-421-11	CARBON	2.2K 5% 1/6W	R252	1-249-405-11	CARBON	100 5% 1/6W
R106	1-247-891-00	CARBON	330K 5% 1/6W	R253	1-249-441-11	CARBON	100K 5% 1/6W
R108	1-247-869-00	CARBON	39K 5% 1/6W	R254	1-249-417-11	CARBON	1K 5% 1/6W
R109	1-247-869-00	CARBON	39K 5% 1/6W	R255	1-249-469-11	CARBON	100K 5% 1/4W
R110	1-247-869-00	CARBON	39K 5% 1/6W	R256	1-247-857-00	CARBON	12K 5% 1/6W
R111	1-249-434-11	CARBON	27K 5% 1/6W	R257	1-249-465-11	CARBON	47K 5% 1/4W
R112	1-249-434-11	CARBON	27K 5% 1/6W	R258	1-249-425-11	CARBON	4.7K 5% 1/6W
R113	1-249-434-11	CARBON	27K 5% 1/6W	R259	1-249-437-11	CARBON	47K 5% 1/6W
R201	1-247-803-00	CARBON	68 5% 1/6W	R261	1-247-815-00	CARBON	220 5% 1/6W
R202	1-247-875-00	CARBON	68K 5% 1/6W	R262	1-249-405-11	CARBON	100 5% 1/6W
R203	1-247-875-00	CARBON	68K 5% 1/6W	R263	1-249-441-11	CARBON	100K 5% 1/6W
R206	1-249-414-11	CARBON	560 5% 1/6W	R264	1-249-415-11	CARBON	680 5% 1/6W
R207	1-247-833-00	CARBON	1.2K 5% 1/6W	R265	1-249-469-11	CARBON	100K 5% 1/4W
R208	1-247-823-00	CARBON	470 5% 1/6W	R266	1-247-857-00	CARBON	12K 5% 1/6W
R209	1-247-811-00	CARBON	150 5% 1/6W	R267	1-249-465-11	CARBON	47K 5% 1/4W
R210	1-249-414-11	CARBON	560 5% 1/6W	R271	1-247-819-00	CARBON	330 5% 1/6W
R211	1-249-420-11	CARBON	1.8K 5% 1/6W	R272	1-249-405-11	CARBON	100 5% 1/6W
R212	1-247-857-00	CARBON	12K 5% 1/6W	R273	1-249-441-11	CARBON	100K 5% 1/6W
R213	1-249-429-11	CARBON	10K 5% 1/6W	R274	1-247-823-00	CARBON	470 5% 1/6W
R214	1-249-435-11	CARBON	33K 5% 1/6W	R275	1-249-469-11	CARBON	100K 5% 1/4W
R216	1-249-417-11	CARBON	1K 5% 1/6W	R276	1-247-857-00	CARBON	12K 5% 1/6W
				R277	1-249-465-11	CARBON	47K 5% 1/4W
				R282	1-249-422-11	CARBON	2.7K 5% 1/6W

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<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
R283	1-249-414-11	CARBON	560 5% 1/6W	R341	1-247-829-00	CARBON	820 5% 1/6W
R284	1-247-857-00	CARBON	12K 5% 1/6W	R342	1-249-421-11	CARBON	2.2K 5% 1/6W
R285	1-247-853-00	CARBON	8.2K 5% 1/6W	R343	1-249-433-11	CARBON	22K 5% 1/6W
R286	1-247-815-00	CARBON	220 5% 1/6W	R344	1-247-823-00	CARBON	470 5% 1/6W
R287	1-249-441-11	CARBON	100K 5% 1/6W	R345	1-247-849-00	CARBON	5.6K 5% 1/6W
R288	1-249-405-11	CARBON	100 5% 1/6W	R346	1-247-851-00	CARBON	6.8K 5% 1/6W
R289	1-249-433-11	CARBON	22K 5% 1/6W	R347	1-249-421-11	CARBON	2.2K 5% 1/6W
R291	1-249-417-11	CARBON	1K 5% 1/6W	R349	1-249-421-11	CARBON	2.2K 5% 1/6W
R292	1-216-357-00	METAL OXIDE	4.7 5% 1W F	R350	1-247-823-00	CARBON	470 5% 1/6W
R293	1-249-447-11	CARBON	1 5% 1/4W	R351	1-247-829-00	CARBON	820 5% 1/6W
R294	1-249-459-11	CARBON	12K 5% 1/4W	R352	1-249-421-11	CARBON	2.2K 5% 1/6W
R295	1-247-851-00	CARBON	6.8K 5% 1/6W	R353	1-249-433-11	CARBON	22K 5% 1/6W
R296	1-249-423-11	CARBON	3.3K 5% 1/6W	R354	1-246-523-00	CARBON	120K 5% 1/4W
R298	1-247-823-00	CARBON	470 5% 1/6W	R355	1-247-845-00	CARBON	3.9K 5% 1/6W
R300	1-249-440-11	CARBON	82K 5% 1/6W	R356	1-249-425-11	CARBON	4.7K 5% 1/6W
R301	1-249-419-11	CARBON	1.5K 5% 1/6W	R357	1-247-851-00	CARBON	6.8K 5% 1/6W
R302	1-249-435-11	CARBON	33K 5% 1/6W	R358	1-247-891-00	CARBON	330K 5% 1/6W
R303	1-249-435-11	CARBON	33K 5% 1/6W	R359	1-247-859-00	CARBON	15K 5% 1/6W
R304	1-247-815-00	CARBON	220 5% 1/6W	R361	1-249-441-11	CARBON	100K 5% 1/6W
R305	1-249-421-11	CARBON	2.2K 5% 1/6W	R362	1-249-441-11	CARBON	100K 5% 1/6W
R306	1-247-821-00	CARBON	390 5% 1/6W	R363	1-249-441-11	CARBON	100K 5% 1/6W
R307	1-249-417-11	CARBON	1K 5% 1/6W	R364	1-249-423-11	CARBON	3.3K 5% 1/6W
R308	1-247-883-00	CARBON	150K 5% 1/6W	R365	1-249-423-11	CARBON	3.3K 5% 1/6W
R309	1-247-815-00	CARBON	220 5% 1/6W	R366	1-249-423-11	CARBON	3.3K 5% 1/6W
R310	1-249-421-11	CARBON	2.2K 5% 1/6W	R367	1-247-815-00	CARBON	220 5% 1/6W
R311	1-247-897-00	CARBON	560K 5% 1/6W	R368	1-249-405-11	CARBON	100 5% 1/6W
R312	1-247-895-00	CARBON	470K 5% 1/6W	R371	1-249-422-11	CARBON	2.7K 5% 1/6W
R313	1-247-883-00	CARBON	150K 5% 1/6W	R372	1-249-422-11	CARBON	2.7K 5% 1/6W
R314	1-247-853-00	CARBON	8.2K 5% 1/6W	R373	1-249-422-11	CARBON	2.7K 5% 1/6W
R315	1-247-853-00	CARBON	8.2K 5% 1/6W	R374	1-247-819-00	CARBON	330 5% 1/6W
R317	1-247-893-00	CARBON	390K 5% 1/6W	R375	1-247-819-00	CARBON	330 5% 1/6W
R318	1-249-425-11	CARBON	4.7K 5% 1/6W	R376	1-247-819-00	CARBON	330 5% 1/6W
R319	1-249-433-11	CARBON	22K 5% 1/6W	R377	1-249-415-11	CARBON	680 5% 1/6W
R320	1-247-853-00	CARBON	8.2K 5% 1/6W	R378	1-247-889-00	CARBON	270K 5% 1/6W
R321	1-249-441-11	CARBON	100K 5% 1/6W	R379	1-247-903-00	CARBON	1M 5% 1/6W
R322	1-249-440-11	CARBON	82K 5% 1/6W	R380	1-247-891-00	CARBON	330K 5% 1/6W
R323	1-247-851-00	CARBON	6.8K 5% 1/6W	R381	1-249-429-11	CARBON	10K 5% 1/6W
R324	1-247-851-00	CARBON	6.8K 5% 1/6W	R382	1-249-429-11	CARBON	10K 5% 1/6W
R325	1-249-440-11	CARBON	82K 5% 1/6W	R383	1-247-859-00	CARBON	15K 5% 1/6W
R326	1-249-497-11	CARBON	33K 5% 1/4W	R384	1-247-887-00	CARBON	220K 5% 1/6W
R327	1-247-883-00	CARBON	150K 5% 1/6W	R385	1-247-889-00	CARBON	270K 5% 1/6W
R328	1-246-511-00	CARBON	39K 5% 1/4W	R386	1-247-875-00	CARBON	68K 5% 1/6W
R330	1-249-423-11	CARBON	3.3K 5% 1/6W	R387	1-247-869-00	CARBON	39K 5% 1/6W
R331	1-247-857-00	CARBON	12K 5% 1/6W	R388	1-249-422-11	CARBON	2.7K 5% 1/6W
R332	1-247-859-00	CARBON	15K 5% 1/6W	R389	1-249-418-11	CARBON	1.2K 5% 1/6W F
R333	1-249-421-11	CARBON	2.2K 5% 1/6W	R390	1-247-813-00	CARBON	180 5% 1/6W
R334	1-247-821-00	CARBON	390 5% 1/6W	R391	1-247-859-00	CARBON	15K 5% 1/6W
R335	1-247-823-00	CARBON	470 5% 1/6W	R392	1-247-823-00	CARBON	470 5% 1/6W
R336	1-249-429-11	CARBON	10K 5% 1/6W	R394	1-247-815-00	CARBON	220 5% 1/6W
R337	1-247-875-00	CARBON	68K 5% 1/6W	R395	1-247-815-00	CARBON	220 5% 1/6W
R338	1-247-875-00	CARBON	68K 5% 1/6W	R396	1-247-815-00	CARBON	220 5% 1/6W
R339	1-247-853-00	CARBON	8.2K 5% 1/6W	R401	1-249-432-11	CARBON	18K 5% 1/6W
R340	1-249-432-11	CARBON	18K 5% 1/6W	R402	1-249-435-11	CARBON	33K 5% 1/6W

A C

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark		
R403	1-247-833-00	CARBON	1.2K 5%	1/6W	C711	1-102-030-00	CERAMIC	330PF 10%	500V
R405	1-247-813-00	CARBON	180 5%	1/6W	C712	1-102-030-00	CERAMIC	330PF 10%	500V
R406	1-249-417-11	CARBON	1K 5%	1/6W	C713	1-102-030-00	CERAMIC	330PF 10%	500V
R407	1-247-813-00	CARBON	180 5%	1/6W					
R408	1-249-421-11	CARBON	2.2K 5%	1/6W					
							<u>COIL</u>		
R410	1-249-419-11	CARBON	1.5K 5%	1/6W	L702	1-408-411-00	MICRO INDUCTOR	15UH	
R411	1-249-420-11	CARBON	1.8K 5%	1/6W	L703	1-408-411-00	MICRO INDUCTOR	15UH	
R415	1-249-425-11	CARBON	4.7K 5%	1/6W	L704	1-408-411-00	MICRO INDUCTOR	15UH	
		<u>VARIABLE RESISTOR</u>					<u>TRANSISTOR</u>		
RV200	1-230-271-00	RES, ADJ, CARBON	4.7K		Q701	8-729-326-11	TRANSISTOR	2SC2611	
RV310	1-230-631-11	RES, ADJ, CARBON	22K		Q702	8-729-326-11	TRANSISTOR	2SC2611	
RV320	1-230-630-11	RES, ADJ, CARBON	10K		Q703	8-729-326-11	TRANSISTOR	2SC2611	
RV330	1-230-625-11	RES, ADJ, CARBON	330						
		<u>TRANSFORMER</u>					<u>RESISTOR</u>		
T201	1-404-464-00	COIL, VIF			R701	1-249-414-11	CARBON	560 5%	1/6W
T202	1-404-465-00	COIL, VIF (MOLD TYPE)			R702	1-249-423-11	CARBON	3.3K 5%	1/6W
T203	1-404-465-00	COIL, VIF (MOLD TYPE)			R703	1-249-405-11	CARBON	100 5%	1/6W
T301	1-404-524-11	DAT			R704	1-249-422-11	CARBON	2.7K 5%	1/6W
					R705	1-247-821-00	CARBON	390 5%	1/6W
		<u>TUNER</u>			R706	1-249-423-11	CARBON	3.3K 5%	1/6W
TU101A	1-463-661-11	TUNER, ET (BT-886)			R707	1-247-823-00	CARBON	470 5%	1/6W
					R708	1-249-405-11	CARBON	100 5%	1/6W
		<u>CRYSTAL</u>			R709	1-249-422-11	CARBON	2.7K 5%	1/6W
					R710	1-247-821-00	CARBON	390 5%	1/6W
X341	1-527-396-00	OSCILLATOR, CRYSTAL			R711	1-249-423-11	CARBON	3.3K 5%	1/6W
X351	1-567-504-11	OSCILLATOR, CRYSTAL			R712	1-247-819-00	CARBON	330 5%	1/6W
					R713	1-249-429-11	CARBON	10K 5%	1/6W
		<u>MODULE</u>			R714	1-249-405-11	CARBON	100 5%	1/6W
YCM301	1-235-833-11	YC MODULE			R715	1-202-824-00	SOLID	3.3K 10%	1/2W
		*****			R716	1-206-692-00	METAL OXIDE	15K 5%	2W F
		*****			R717	1-202-824-00	SOLID	3.3K 10%	1/2W
		*A-1330-722-A	C BOARD, COMPLETE		R718	1-206-692-00	METAL OXIDE	15K 5%	2W F
		*****			R719	1-202-824-00	SOLID	3.3K 10%	1/2W
					R720	1-206-692-00	METAL OXIDE	15K 5%	2W F
		1-526-814-11	SOCKET, CRT		R722	1-202-837-00	SOLID	82K	1/2W
		*4-374-704-01	COVER (REAR LID), CV VOL		R723	1-202-846-00	SOLID	470K	1/2W
		*4-374-717-01	COVER (MAIN), CV VOL		R724	1-202-848-00	SOLID	680K	1/2W
					R725	1-202-838-00	SOLID	100K 10%	1/2W
		<u>CONNECTOR</u>			R726	1-202-719-00	SOLID	1M 10%	1/2W
C1	*1-506-371-00	2P PLUG (L)			R727	1-202-814-91	SOLID	33K 10%	1/2W
C2	*1-508-768-00	6P PLUG			R728	1-215-071-00	METAL OXIDE	0.22 5%	2W F
C3	*1-564-442-11	PLUG, CONNECTOR (2.5MM) 6P			R729	1-202-842-91	SOLID	220K 10%	1/2W
					R730	1-202-549-00	SOLID	100 10%	1/2W
		<u>CAPACITOR</u>					<u>VARIABLE RESISTOR</u>		
C701	1-102-820-00	CERAMIC	330PF	5%	50V				
C702	1-102-820-00	CERAMIC	330PF	5%	50V	RV701	1-230-105-00	RES, ADJ, CARBON	3.3K
C703	1-102-820-00	CERAMIC	330PF	5%	50V	RV702	1-230-105-00	RES, ADJ, CARBON	3.3K
C704	1-123-356-00	ELECT	10MF	20%	50V	RV703	1-230-105-00	RES, ADJ, CARBON	3.3K
C705	1-101-006-00	CERAMIC	0.047MF		50V	RV704	1-230-105-00	RES, ADJ, CARBON	3.3K
						RV705	1-230-105-00	RES, ADJ, CARBON	3.3K
C706	1-123-356-00	ELECT	10MF	20%	50V				
C707	1-129-718-00	FILM	0.022MF	10%	630V	RV706	1-230-409-11	RES, ADJ, CARBON	22K
C708	1-162-116-00	CERAMIC	680PF	10%	2KV	RV707	1-230-641-11	RES, ADJ, METAL GLAZE	2.2M

The components identified by shading and mark A are critical for safety. Replace only with part number specified.

C H1 H2 K

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark															
RV708	1-230-641-11	RES, ADJ, METAL GLAZE	2.2M			R004	1-249-437-11	CARBON	47K	5%	1/6W															
RV709A	1-230-619-11	RES, ADJ, METAL GLAZE	110M			R005	1-249-437-11	CARBON	47K	5%	1/6W															
<u>SPARK GAP</u>																										
SG701	1-519-030-00	DISCHARGE ELEMENT				<u>VARIABLE RESISTOR</u>																				
SG702	1-519-030-00	DISCHARGE ELEMENT				RV001	1-237-362-11	RES, VAR, CARBON (WITH SW)	10KX3																	
SG703	1-519-030-00	DISCHARGE ELEMENT				<u>*****</u>																				
<u>*1-619-222-11 H1 BOARD</u>												*A-1385-039-A	K BOARD, COMPLETE	<u>*****</u>												
<u>*****</u>												<u>*****</u>														
<u>*1-564-449-11 PLUG, CONNECTOR (2.5MM) 13P</u>												1-507-892-71	JACK, PIN 1P	<u>*****</u>												
<u>*4-376-410-01 HOLDER (B), LED</u>												1-560-751-21	CONNECTOR ASSY, BNC	<u>*****</u>												
<u>*4-380-083-01 HOLDER (E), LED</u>												2-269-321-00	COVER, SPARK KILLER	<u>*****</u>												
<u>DIODE</u>												<u>CAPACITOR</u>														
D2001	8-719-920-66	DIODE SLR-54VC12				C1001	1-123-380-00	ELECT	1MF	20%	50V															
D2002	8-719-920-66	DIODE SLR-54VC12				C1002	1-123-356-00	ELECT	10MF	20%	16V															
D2003	8-719-101-41	DIODE RD3.9E-L2				C1004	1-123-333-00	ELECT	100MF	20%	16V															
<u>IC</u>												C1011	1-123-323-00	ELECT	470MF	20%	16V									
IC1	8-741-139-80	IC BX1398				C1012	1-123-333-00	ELECT	100MF	20%	16V															
<u>RESISTOR</u>												C1013	1-161-059-00	CERAMIC	0.047MF	10%	25V									
R2001	1-249-419-11	CARBON	1.5K	5%	1/6W	C1022	1-102-503-00	CERAMIC	3PF	0.25PF	50V															
R2002	1-249-405-11	CARBON	100	5%	1/6W	C1024	1-124-010-00	ELECT	100MF	20%	25V															
<u>SWITCH</u>												C1025	1-123-323-00	ELECT	470MF	20%	16V									
S2007	1-553-976-00	SWITCH, PUSH				C1026	1-161-059-00	CERAMIC	0.047MF	10%	25V															
S2008	1-552-765-00	SWITCH, KEYBOARD				C1027	1-102-848-00	CERAMIC	180PF	5%	50V															
S2009	1-552-765-00	SWITCH, KEYBOARD				C1032	1-124-002-11	ELECT	1MF	20%	50V															
S2010	1-552-765-00	SWITCH, KEYBOARD				C1033	1-123-321-00	ELECT	220MF	20%	16V															
S2011	1-552-765-00	SWITCH, KEYBOARD				C1060	1-102-038-00	CERAMIC	0.001MF		500V															
S2020	1-570-342-11	SWITCH, PUSH (6 KEY)				C1061	1-123-334-00	ELECT	220MF	20%	25V															
<u>*****</u>												C1062	1-102-125-00	CERAMIC	0.0047MF	10%	50V									
<u>*1-619-223-11 H2 BOARD</u>												C1063	1-123-332-00	ELECT	47MF	20%	16V									
<u>*****</u>												C1065	1-162-578-00	CERAMIC	0.0047MF	20%	400V									
<u>*1-564-443-11 PLUG, CONNECTOR (2.5MM) 7P</u>												C1066	1-162-578-00	CERAMIC	0.0047MF	20%	400V									
<u>DIODE</u>												C1067	1-162-578-00	CERAMIC	0.0047MF	20%	400V									
D001	8-719-911-19	DIODE 1SS119				C1068	1-162-578-00	CERAMIC	0.0047MF	20%	400V															
<u>TRANSISTOR</u>												<u>IC</u>												<u>*****</u>		
Q001	8-729-178-54	TRANSISTOR 2SC27	.			IC1001A	8-719-800-74	DIODE	TLP651-VIDEO				IC1002A	8-719-801-59	DIODE	TLP631										
<u>RESISTOR</u>												<u>CONNECTOR</u>												<u>*****</u>		
R001	1-247-845-00	CARBON	3.9K	5%	1/6W	K1	*1-564-441-11	PLUG, CONNECTOR (2.5MM)	5P				K2	*1-564-354-00	PLUG, CONNECTOR (2.5MM)	3P										
R002	1-249-429-11	CARBON	10K	5%	1/6W																					
R003	1-249-437-11	CARBON	47K	5%	1/6W																					

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

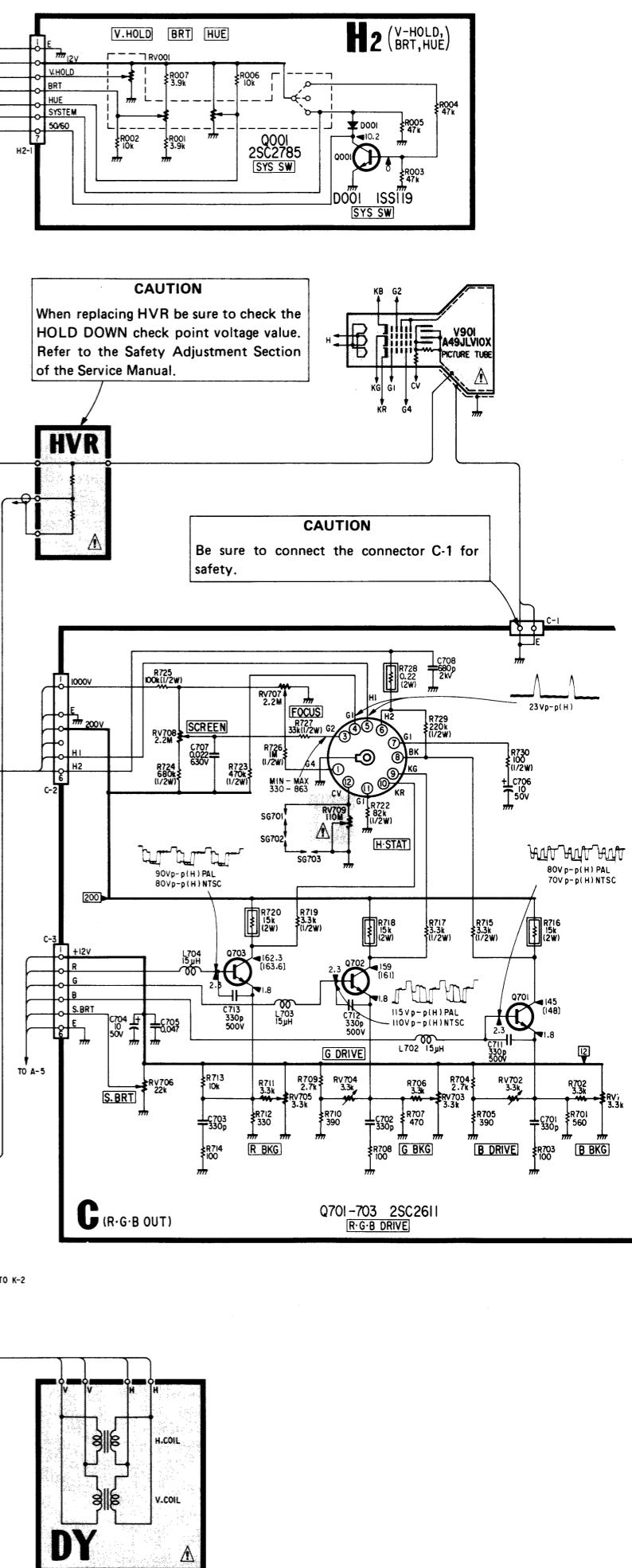
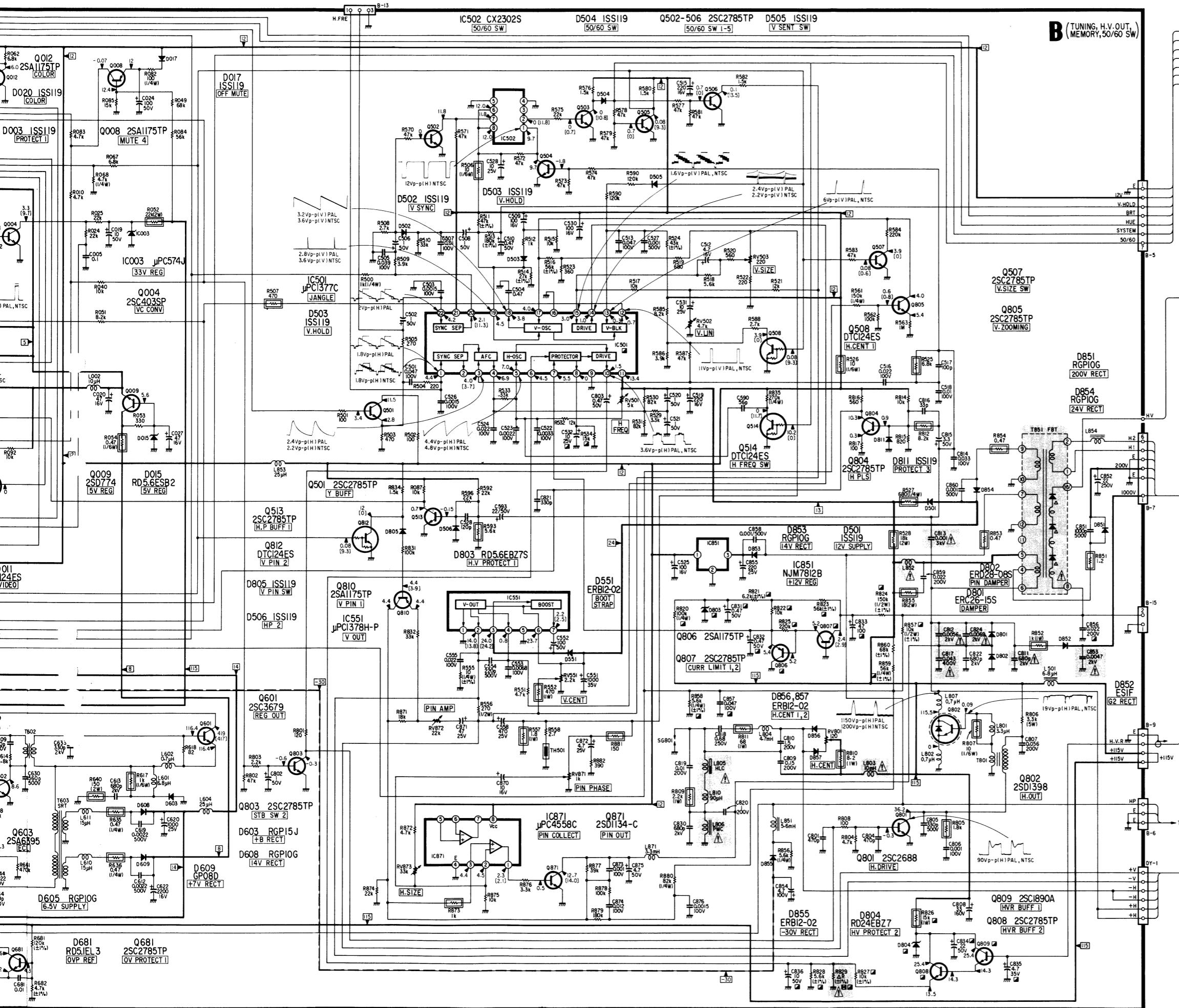


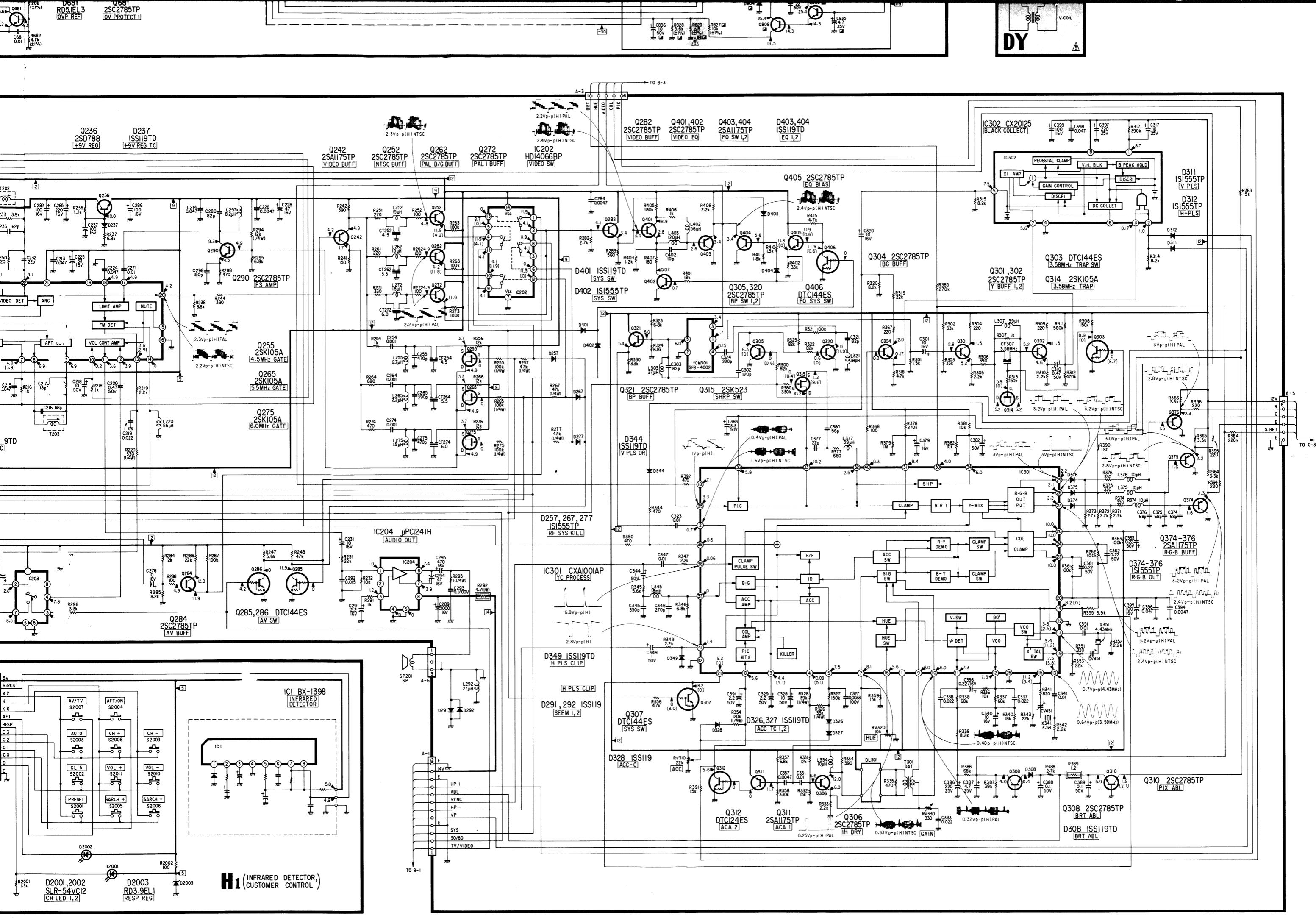
<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>					
<u>TRANSISTOR</u>												
Q1001	8-729-178-54	TRANSISTOR 2SC2785		▲.1-451-272-12	DEFLECTION YOKE (SY-140A)							
Q1011	8-729-178-54	TRANSISTOR 2SC2785		1-452-032-00	MAGNET, DISK; 10MM Ø							
Q1021	8-729-178-54	TRANSISTOR 2SC2785		1-452-094-00	MAGNET, ROTATABLE DISK; 15MM Ø							
Q1022	8-729-178-54	TRANSISTOR 2SC2785		1-452-277-00	MAGNET, BMC							
Q1031	8-729-178-54	TRANSISTOR 2SC2785		▲.1-534-817-71	CORD, POWER							
Q1032	8-729-178-54	TRANSISTOR 2SC2785		▲.1-536-494-11	ANT TERMINAL ASSY							
Q1060	8-729-177-43	TRANSISTOR 2SD774		1-543-171-00	CORE, RING							
<u>RESISTOR</u>												
R1001	1-249-417-11	CARBON	1K 5%	1/6W	L901 ▲.1-426-244-22	COIL, DEMAGNETIZATION						
R1002	1-249-441-11	CARBON	100K 5%	1/6W	S901 ▲.1-554-966-12	SWITCH, PUSH (AC POWER)(1 KEY)						
R1003	1-249-433-11	CARBON	22K 5%	1/6W	SP901 1-503-542-11	SPEAKER						
R1004	1-249-421-11	CARBON	2.2K 5%	1/6W	SP902 1-503-256-00	SPEAKER (040T004)						
R1005	1-249-415-11	CARBON	680 5%	1/6W	T851 ▲.1-439-363-31	TRANSFORMER ASSY, FLYBACK						
R1010	1-247-804-00	CARBON	75 5%	1/6W	V901 ▲.8-737-351-05	CRT (A49JL10X)						
R1011	1-249-405-11	CARBON	100 5%	1/6W	***** ACCESSORIES AND PACKING MATERIALS *****							
R1012	1-247-851-00	CARBON	6.8K 5%	1/6W								
R1013	1-249-421-11	CARBON	2.2K 5%	1/6W								
R1014	1-247-813-00	CARBON	180 5%	1/6W								
R1021	1-247-853-00	CARBON	8.2K 5%	1/6W								
R1022	1-249-417-11	CARBON	1K 5%	1/6W	A-1470-760-A	COMMANDER ASSY (RM-652)						
R1023	1-249-405-11	CARBON	100 5%	1/6W	▲.1-417-094-11	MIXER, U/V (PAL)						
R1024	1-249-419-11	CARBON	1.5K 5%	1/6W	1-501-329-11	ANTENNA, TELESCOPIC						
R1025	1-247-875-00	CARBON	68K 5%	1/6W	1-506-409-00	ADAPTOR, CONVERSION						
R1026	1-247-869-00	CARBON	39K 5%	1/6W	1-513-382-00	ANTENNA MUTCHING						
R1027	1-247-823-00	CARBON	470 5%	1/6W								
R1028	1-247-823-00	CARBON	470 5%	1/6W	4-377-015-01	BAG, PROTECTION						
R1031	1-249-405-11	CARBON	100 5%	1/6W	4-377-039-01	CUSHION (UPPER) (ASSY)						
R1032	1-249-425-11	CARBON	4.7K 5%	1/6W	4-377-040-01	CUSHION (LOWER) (ASSY)						
R1033	1-249-421-11	CARBON	2.2K 5%	1/6W	*4-382-405-01	INDIVIDUAL CARTON						
R1034	1-247-849-00	CARBON	5.6K 5%	1/6W	4-482-272-61	MANUAL, INSTRUCTION						
R1035	1-249-423-11	CARBON	3.3K 5%	1/6W								
R1036	1-249-417-11	CARBON	1K 5%	1/6W								
R1037	1-249-396-11	CARBON	18 5%	1/6W F								
R1038	1-249-433-11	CARBON	22K 5%	1/6W								
R1062	1-249-414-11	CARBON	560 5%	1/6W								
R1063	1-249-377-11	CARBON	0.47 5%	1/6W								
R1065	1-247-289-00	CARBON	8.2M 5%	1W								
<u>VARIABLE RESISTOR</u>												
RV1021	1-230-630-11	RES, ADJ, CARBON 10K										
RV1031	1-230-632-11	RES, ADJ, CARBON 33K										
<u>TRANSFORMER</u>												
T1001	▲.1-421-823-11	TRANSFORMER, PULSE										

<u>MISCELLANEOUS</u>												

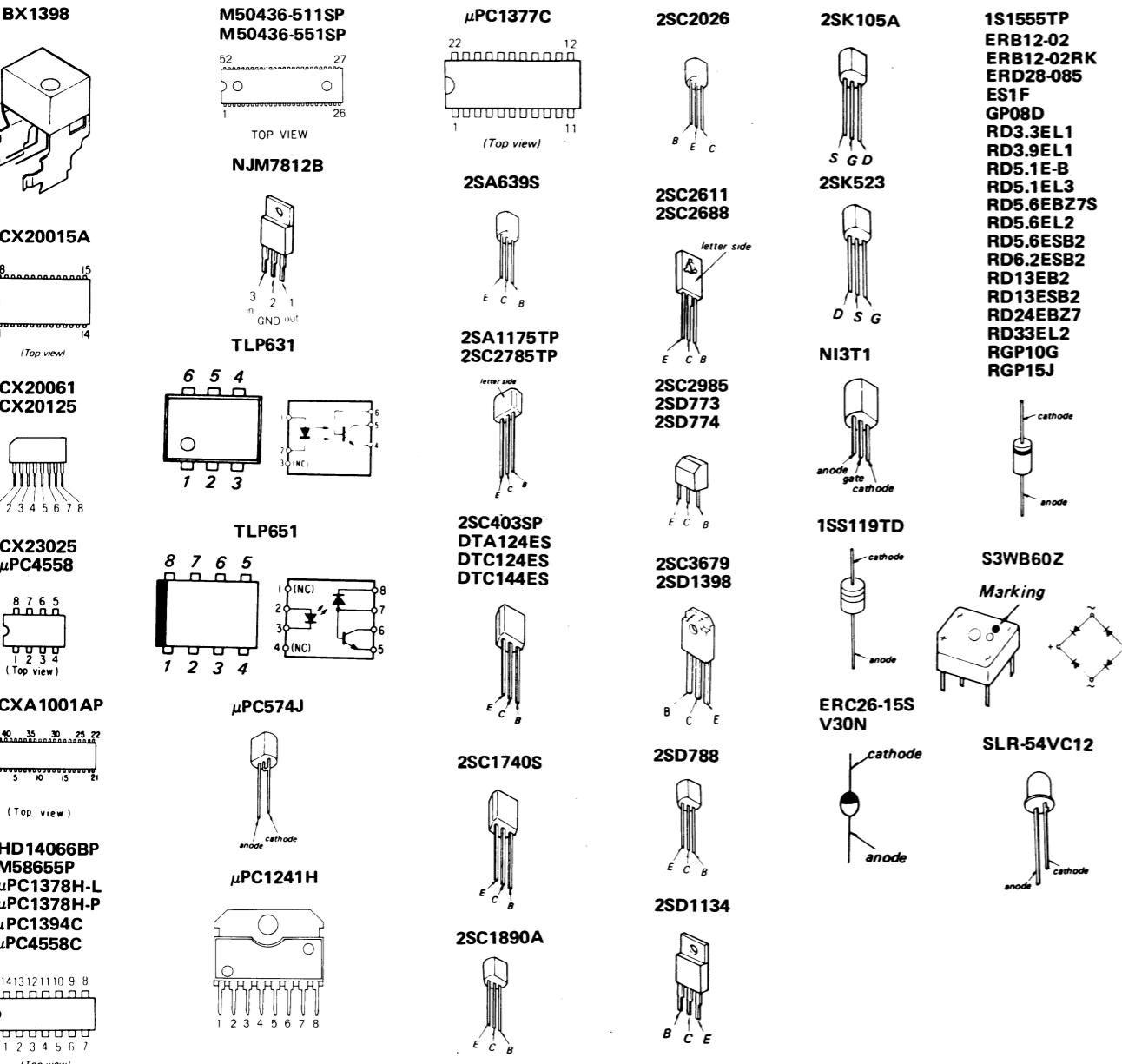
▲.1-230-940-11 RESISTOR ASSY, HIGH-VOLTAGE												

The components identified by shading and mark A are critical for safety. Replace only with part number specified.

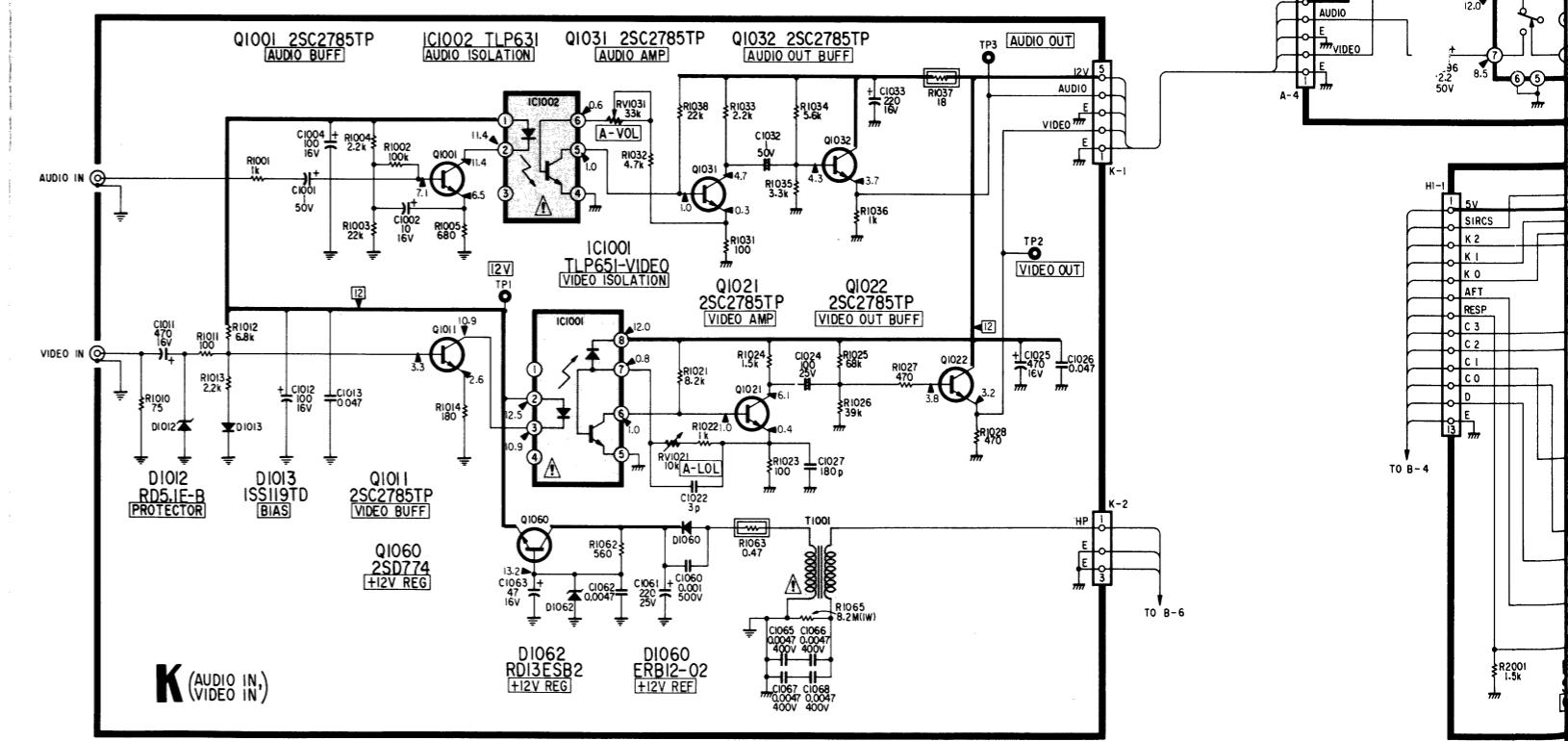
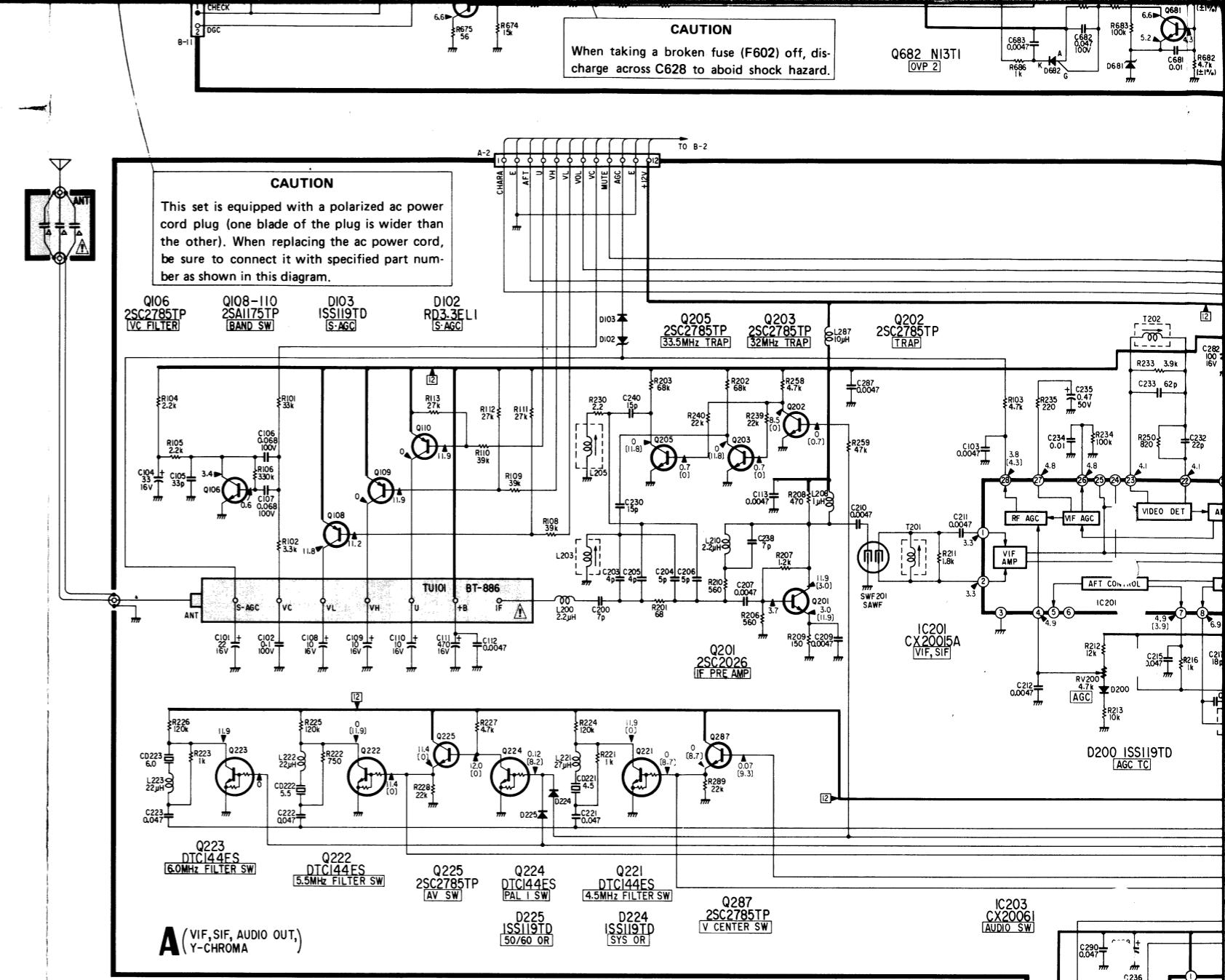
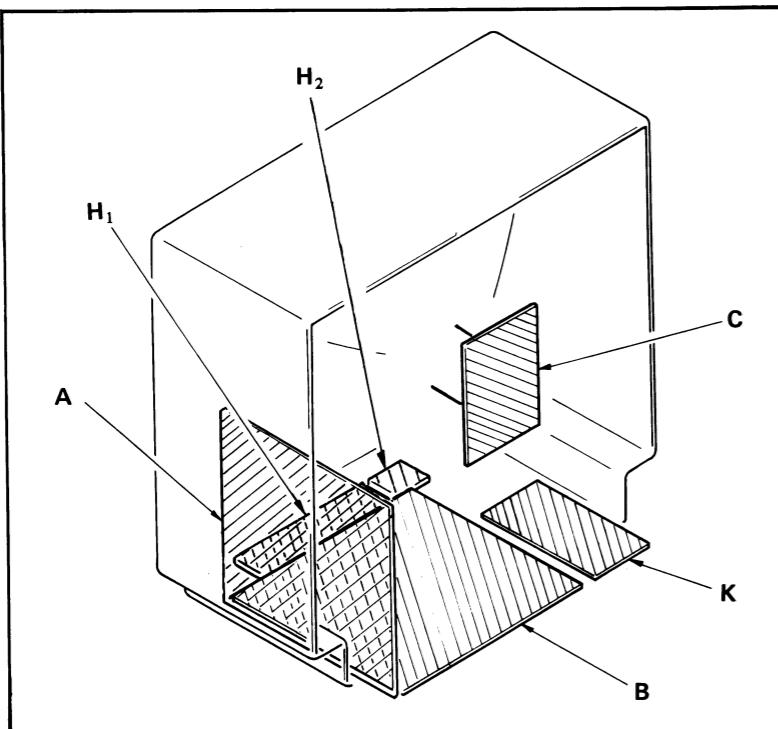




SEMICONDUCTORS



CIRCUIT BOARDS LOCATION

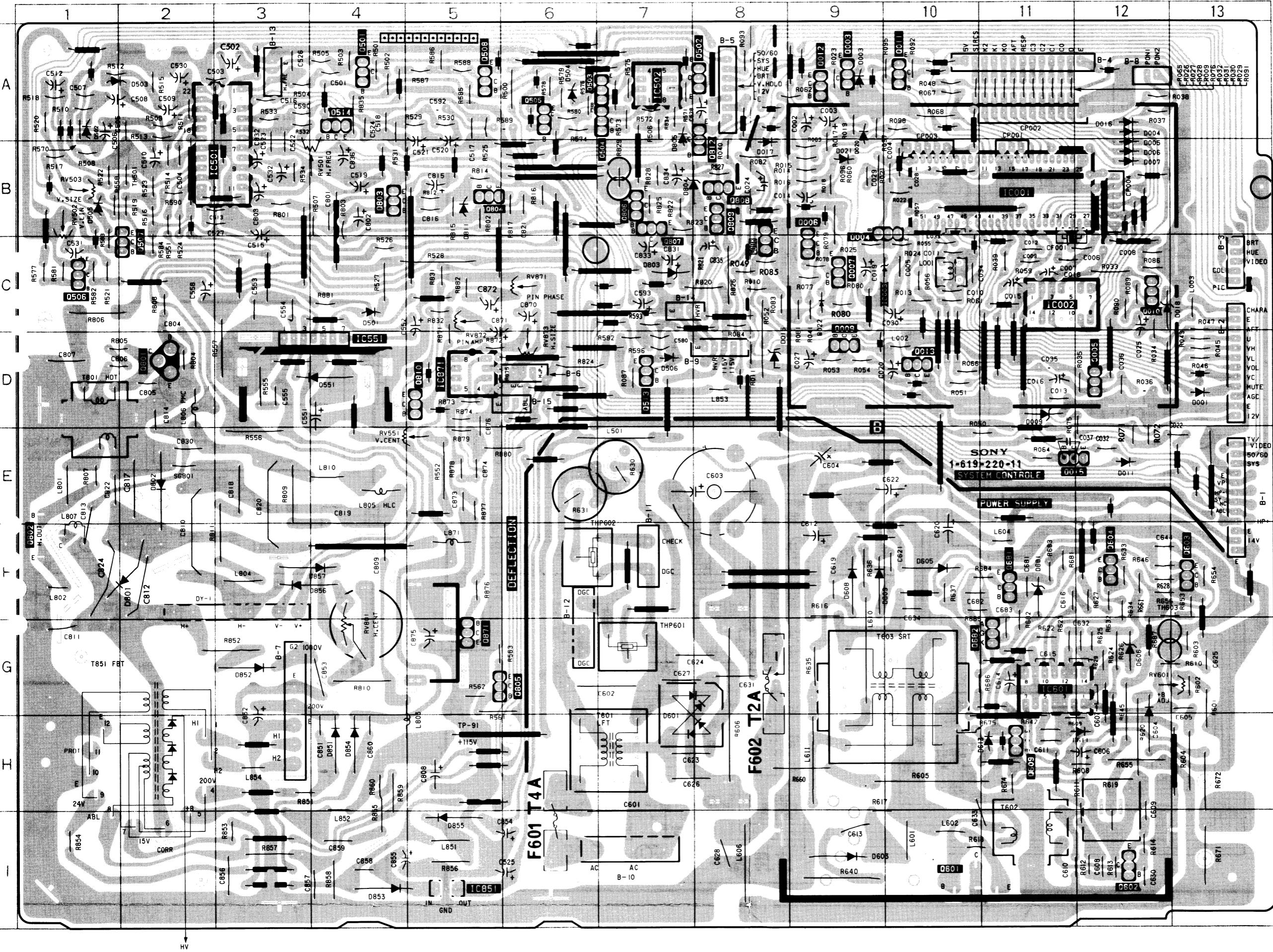


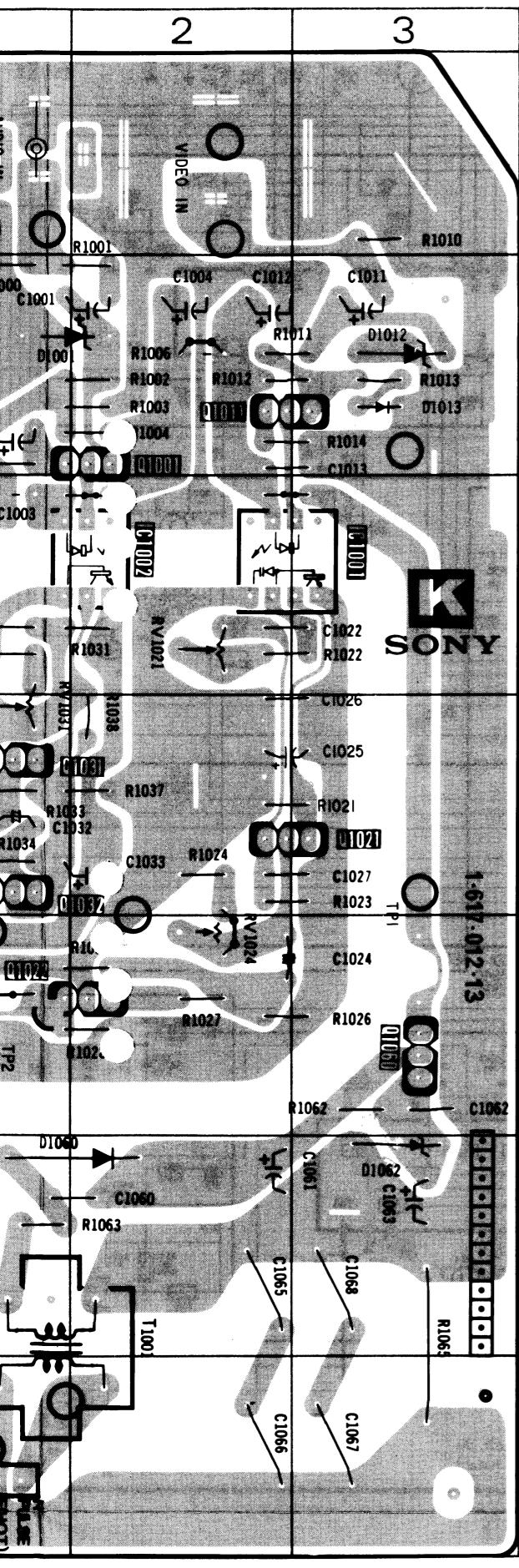
PRINTED WIRING BOARDS

Note: All mounting diagrams are viewed from conductor side.

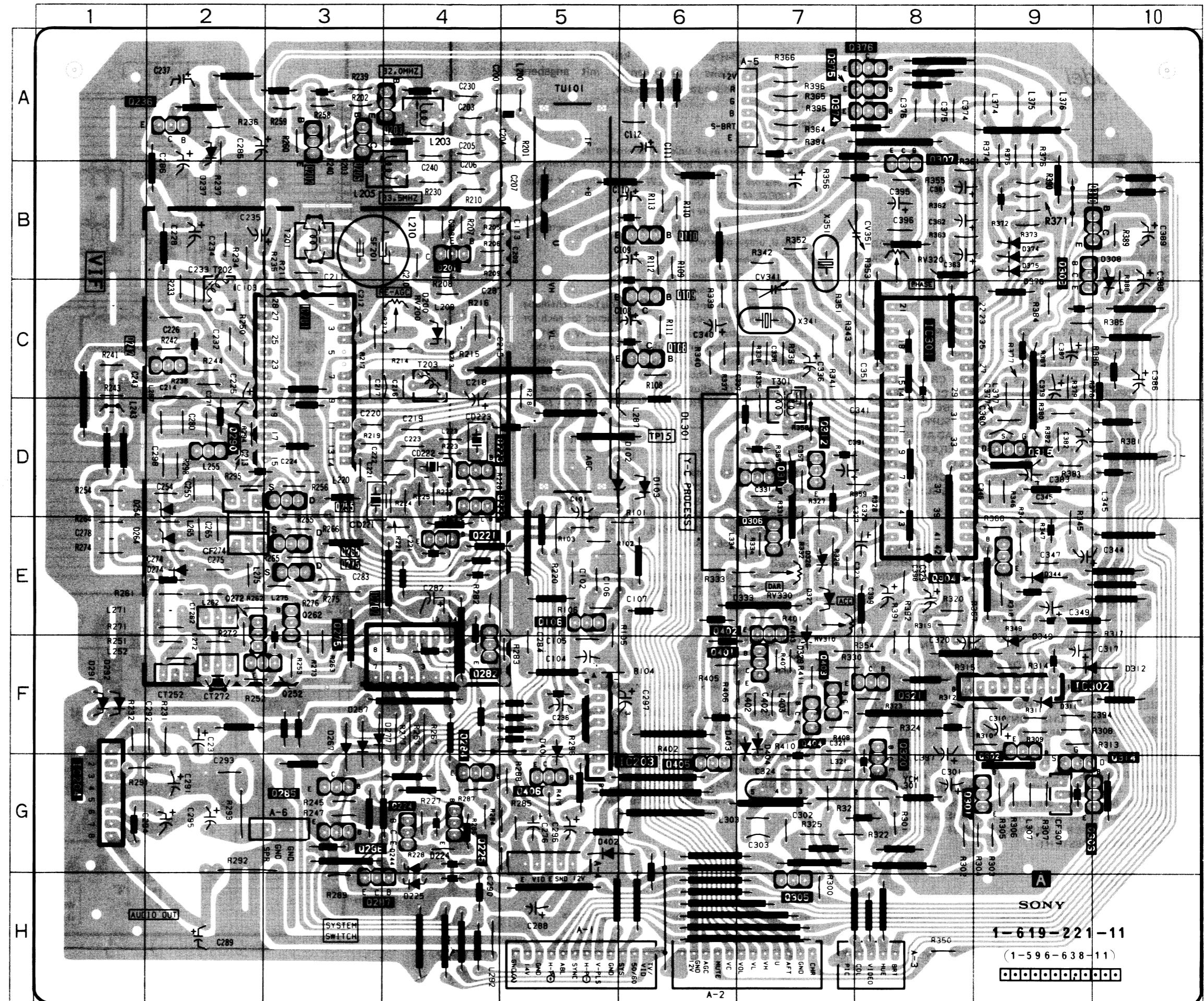
B

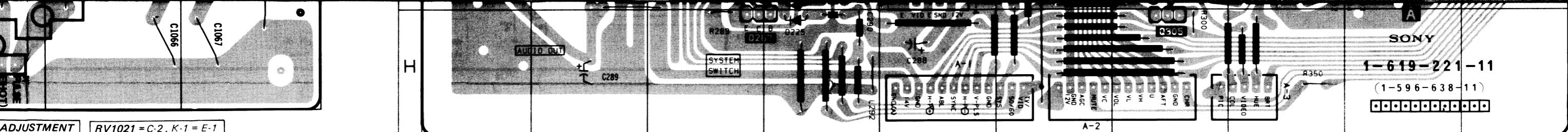
TUNING, H.V-OUT,
MEMORY, 50/60 SW





A [VIF, SIF, AUDIO OUT,
Y-CHROMA





• (75Ω) input signal.

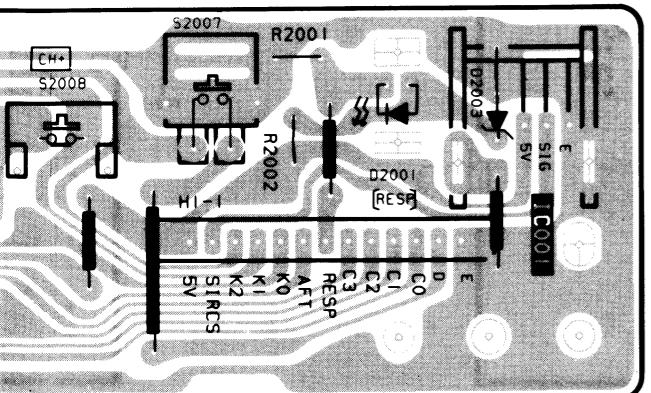
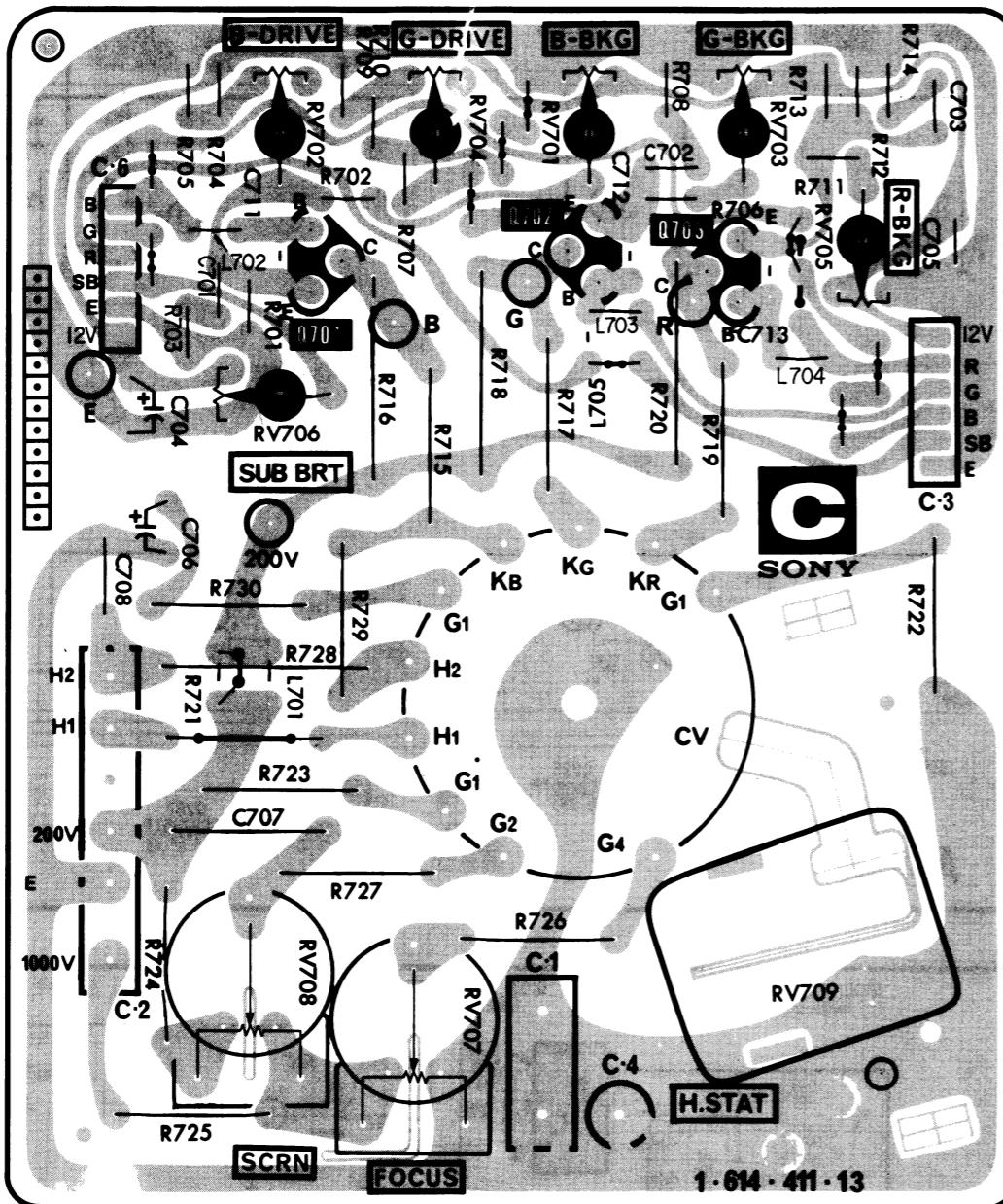
11 VIDEO LEVEL so that the signal of K-1 connector (VIDEO) becomes

spin (2) of $K-1$

al (1 kHz sin e -5 dBs +1 dB) to

11 AUDIO LE ' 'E L so that the signal
of K-1 connector (AUDIO) becomes

C [R·G·B OUT]

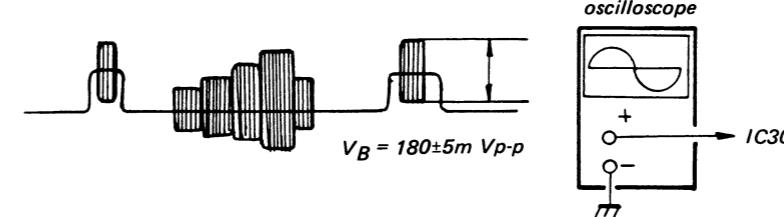


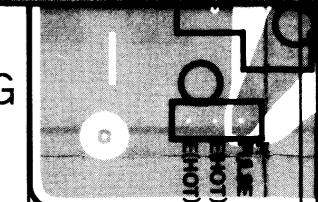
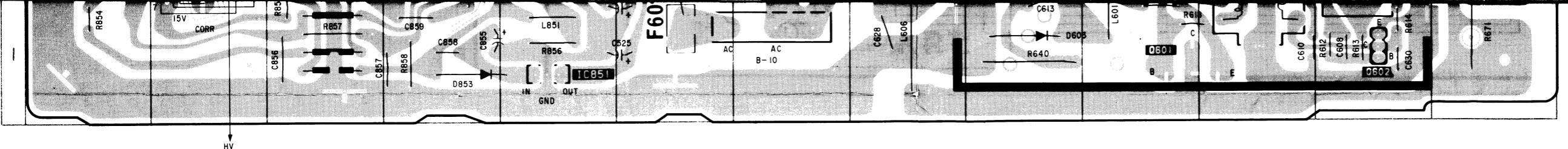
ACC ADJUSTMENT

1. Feed in a color-bar signal.
2. Connect an oscilloscope to the pin 7 of IC301.
3. Adjust RV310 to obtain 180 ± 5 mVp-p waveform.

AGC ADJUSTMENT

*Adjust RV200 so that snow noise cross modulation
adjust disappear from the picture.*

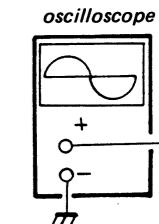




VIDEO OUT LEVEL ADJUSTMENT

SETUP

- **Video input:** 1 Vp-p (75Ω) input
- **Adjust with RV1021 VIDEO**
level of pin ② of K-1 conn
 $2Vp-p \pm 0.2V$.



CONNECTOR	C522 B-3	C816 B-3	TRANSISTOR	R003 A-9	R516 R622	R854 R855
B1 E-1	C523 B-3	C817 B-4	R004 A-10	R517 R623	R856 R857	
B2 C-1	C524 A-4	C818 C-4	R005 B-11	R518 R624	R858	
B3 C-1	C525 A-3	C819 C-4	R006 C-12	R519 R625		
B4 A-1	C526 A-3	C820 C-4	R007 D-13	R520 R626		
B5 A-8			R008 E-14	R521 R627		
B6 D-6	C527 B-3	C821 B-4	R009 F-15	R522 R628		
B7 G-3	C528 B-3	C822 B-4	R010 G-16	R523 R629		
B8 D-12	C530 B-3	C824 B-4	R011 H-17	R524 R630		
B9 D-12	C531 B-3	C830 B-4	R012 I-18	R525 R631		
B10 D-7	C532 B-3	C831 B-4	R013 J-19	R526 R632		
B11 F-7	C551 C-4	C832 C-4	R014 K-20	R527 R633		
B12 F-6	C552 C-4	C833 C-4	R015 L-21	R528 R634		
B13 A-7	C553 C-4	C834 C-4	R016 M-22	R529 R635		
B14 D-6	C554 C-4	C835 C-4	R017 N-23	R530 R636		
B15 C-6	C555 C-4	C836 C-4	R018 O-24	R531 R637		
'1 F-2			R019 P-25	R532 R640		
CAPACITOR			R020 Q-26	R533 R642		
C002 A-10	C601 H-10	C856 H-10	R021 R534 R644	R638 R880		
C003 A-10	C602 G-10	C857 H-10	R022 R535 R645	R881 R882		
C004 C-10	C603 G-10	C858 H-10	R023 R536 R646			
C005 C-12	C604 G-10	C860 H-10	R024 R537 R653			
C006 C-12	C605 G-13	C861 H-11	R025 R538 R654			
C007 C-11	C606 H-12	C870 C-11	R026 R539 R655			
C008 C-12	C607 H-12	C871 C-11	R027 R540 R656			
C009 C-12	C608 H-12	C872 C-11	R028 R541 R660			
C010 C-10	C609 H-12	C873 C-11	R029 R542 R661			
C011 C-10	C610 H-12	C874 C-11	R030 R543 R662			
C012 C-11	C611 H-12	C875 C-11	R031 R544 R663			
C013 C-11	C612 H-12	C876 C-11	R032 R545 R664			
C014 B-19	C613 H-12	C877 C-11	R033 R546 R665			
C015 C-11	C614 H-12	C878 C-11	R034 R547 R666			
C016 D-11	C615 G-11		R035 R548 R667			
C018 C-11	C616 F-11		R036 R549 R668			
C019 C-11	C617 F-11		R037 R550 R669			
C020 C-10	C618 F-10		R038 R551 R670			
C022 C-10	C619 F-10		R039 R552 R671			
C024 B-12	C620 F-10		R040 R553 R672			
C025 C-12	C621 F-10		R041 R554 R673			
C027 C-12	C622 F-10		R042 R555 R674			
C028 C-10	C623 H-13		R043 R556 R675			
C030 C-10	C624 H-13		R044 R557 R676			
C032 C-12	C625 H-13		R045 R558 R677			
C033 C-12	C626 H-13		R046 R559 R678			
C034 C-12	C627 H-13		R047 R560 R679			
C036 C-12	C628 H-12		R048 R561 R680			
C037 C-11	C629 H-12		R049 R562 R681			
C501 A-4	C630 H-12		R050 R563 R682			
C502 A-4	C631 H-12		R051 R564 R683			
C503 A-4	C632 H-12		R052 R565 R684			
C504 B-12	C633 H-12		R053 R566 R685			
C505 A-1	C634 H-12		R054 R567 R686			
C506 A-1	C635 H-12		R055 R568 R687			
C507 A-1	C636 H-12		R056 R569 R688			
C508 A-1	C637 H-12		R057 R570 R689			
C509 A	C638 H-12		R058 R571 R690			
C510 B-2	C639 H-12		R059 R572 R691			
C512 A-1	C640 H-12		R060 R573 R692			
C513 C-13	C641 H-12		R061 R574 R693			
C515 C-13	C642 H-12		R062 R575 R694			
C516 A-3	C643 H-12		R063 R576 R695			
C517 A-5	C644 H-12		R064 R577 R696			
C518 A-4	C645 H-12		R065 R578 R697			
C519 B-4	C646 H-12		R066 R579 R698			
C520 C-4	C647 H-12		R067 R580 R699			
C521 B-5	C648 H-12		R068 R581 R700			
	C649 H-12		R069 R582 R701			
	C650 H-12		R070 R583 R702			
	C651 H-12		R071 R584 R703			
	C652 H-12		R072 R585 R704			
	C653 H-12		R073 R586 R705			
	C654 H-12		R074 R587 R706			
	C655 H-12		R075 R588 R707			
	C656 H-12		R076 R589 R708			
	C657 H-12		R077 R590 R709			
	C658 H-12		R078 R591 R710			
	C659 H-12		R079 R592 R711			
	C660 H-12		R080 R593 R712			
	C661 H-12		R081 R594 R713			
	C662 H-12		R082 R595 R714			
	C663 H-12		R083 R596 R715			
	C664 H-12		R084 R597 R716			
	C665 H-12		R085 R598 R717			
	C666 H-12		R086 R599 R718			
	C667 H-12		R087 R600 R719			
	C668 H-12		R088 R601 R720			
	C669 H-12		R089 R602 R721			
	C670 H-12		R090 R603 R722			
	C671 H-12		R091 R604 R723			
	C672 H-12		R092 R605 R724			
	C673 H-12		R093 R606 R725			
	C674 H-12		R094 R607 R726			
	C675 H-12		R095 R608 R727			
	C676 H-12		R096 R609 R728			
	C677 H-12		R097 R610 R729			
	C678 H-12		R098 R611 R730			
	C679 H-12		R099 R612 R731			
	C680 H-12		R100 R613 R732			
	C681 H-12		R101 R614 R733			
	C682 H-12		R102 R615 R734			
	C683 H-12		R103 R616 R735			
	C684 H-12		R104 R617 R736			
	C685 H-12		R105 R618 R737			
	C686 H-12		R106 R619 R738			
	C687 H-12		R107 R620 R739			
	C688 H-12		R108 R621 R740			
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	C690 H-12		R110 R623 R742			
	C691 H-12		R111 R624 R743			
	C692 H-12		R112 R625 R744			
	C693 H-12		R113 R626 R745			
	C694 H-12		R114 R627 R746			
	C695 H-12		R115 R628 R747			
	C696 H-12		R116 R629 R748			
	C697 H-12		R117 R630 R749			
	C698 H-12		R118 R631 R750			
	C699 H-12		R119 R632 R751			
	C700 H-12		R120 R633 R752			
	C701 H-12		R121 R634 R753			
	C702 H-12		R122 R635 R754			
	C703 H-12		R123 R636 R755			
	C704 H-12		R124 R637 R756			
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	C706 H-12		R126 R639 R758			
	C707 H-12		R127 R640 R759			
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	C712 H-12		R132 R645 R764			
	C713 H-12		R133 R646 R765			
	C714 H-12		R134 R647 R766			